

# Dowdy Pork LLC

Nutrient Management Plan

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# Instructions for Completing the CAFO Permit Application Nutrient Management Plan Application Checklist

#### Purpose:

This checklist is designed to assist you in ensuring that all of the required elements spelled out in the General State Operating Permit for Class II Concentrated Animal Feeding Operations (CAFOs), Permit Number SOPCD0000, are properly and adequately discussed in the Nutrient Management Plan (NMP) that is to accompany each CAFO permit application. The use of the checklist will assist with ensuring that a complete CAFO permit application is submitted. If all elements defined in the permit are accounted for, this will in turn, increase the speed at which the CAFO permit application is reviewed, NMP approved, and permit coverage issued.

#### Instructions:

After obtaining all of the necessary soil tests, manure/litter analyses, and writing your NMP or contracting it out to a Technical Service Provider (TSP), complete this checklist by:

- -finding all of the required items discussed line-by-line in this checklist,
- -noting which page(s) the item is on in the NMP, and
- -ensure that the person(s) completing the checklist(s) on your behalf initials the boxes as the items are marked complete (via page number(s)).

Incomplete checklists or CAFO permit applications will be returned for completion.

#### Questions?

If you need further assistance completing the checklist or in preparing your CAFO permit application, including NMP, please contact the Tennessee Department of Agriculture (TDA), your local UT Extension office, or county USDA/ Natural Resources Conservation Service (USDA/ NRCS) office. If you have questions regarding the permit requirements please contact the Tennessee Department of Environment and Conservation (TDEC), Division of Water Resources.

#### TN Dept. of Agriculture Contacts:

Dr. Sam Marshall: (615) 837-5306; e-mail: sam.marshall@tn.gov

#### TDEC, Division of Water Resources Contact:

Ms. Erin O'Brien: (615) 253-2245; e-mail: erin.o'brien@tn.gov

#### Nutrient Management Plan (NMP) and CAFO Permit Application Checklist for SOPCD0000

ity Name: Name of Owner: Doug PorkLLC

Form Completed by:

Doug Dowsky

SOPCD Requirer	ments*		Complete producer of		revients in GNMPANAR FOR TDA USE ONLY		
Required Element	Permit Page #	Citation	Item Addressed in (C)NMP on Page #	Initials	Comments	Completed (Yes/ No)	
Notice of Intent form	4	1.6.1					
Declarations Page, which addresses the		·					
following items:	***************************************	(42					
Prevents direct contact of confined animals with waters of the State.	9	<b>3.1.E</b>	74	Do.			
Ensures chemicals or other contaminants handled on-site are handled (including spill clean-up) and disposed of properly.	9, 13	3.1.F, 4.10.1.A, 4.10.1.C	74	מס			
All sampling of soil and manure/litter is conducted according to protocols developed by UT Extension.	9	3.1.H	74	ΔΔ			
copy of the most recent nutrient management plan (NMP) will be kept as part of the farm records and will be maintained and implemented as written.	9	3.1.J	74	D.D.			
If applicable, all waste directed to under-floor waste pits shall be composed entirely of wastewater (i.e., washwater, animal waste) and precipitation runoff from the CAFO areas.	13	4.10.1.B	74	٥٥			
Notify TDEC of any significant wildlife mortalities following land application of animal wastes.	13	<b>4,10.1</b> .D	74	۵۵			
Address employee training for proper operation and maintenance of facility where employees are responsible for activites that relate to permit compliance.	13	4.10.1.E	74	0.5			
There shall be no land application of putrients within 24 hours of a recipitation event that may cause runoff. The operator shall not land apply nutrients to frozen, flooded, or saturated soils.	15	4.10.2.F	74	00	RECEI	<b>VED</b>	

Name of Owner:

SÖPCD Requirer	ments*		Complete producer o	d by	FOR TDA US	
Required Element	Permit Page #	Citation	Item Addressed in (C)NMP on Page #	Initials	Comments "	Completed (Yes/ No)
Expected crop yields	17	5.2.1	12-44	00	***************************************	
The NMP addresses facility maintenance.	9	3.2.C	Έ.			
Closure/rehabilitation plan for waste system storage/treatment structure(s) and mortalities that addresses facility maintenance until proper closure to be completed within 360 days.	5, 16	1.6.4, 4.13	72-73	DD		
Includes field specific assessment of potential for N and P2O5 transport from field to surface waters. Must address form, source, amount, timing, and method of application of nutrients on each field to achieve realistic production field).	14	4.10.2.A.i	45-70	ηΩ		
Current manure/litter analysis for N and P <sub>2</sub> O <sub>5</sub> (from within last year).	14	4.10.2.B	23	DA		
Provide results of soil test conducted at a minimum of once every five years for all fields receiving manure, litter, or process wastewater.	14	4.10.2.B	24-3¢	00		
Application of waste is no closer than 100 ft. to any down-gradient surface waters, open tile line intake structures, sinkholes, ag, wells, or other conduits to surface waters unless 100 ft. setback with a 35 ft. wide vegetated buffer is substituted or it is demonstrated that a setback/buffer is not needed due to use of alternate conservation practices or where field conditions would provide equivalent pollutant reductions.	14	4.10.2.D	3	0.0		
New CAFOs located adjacent to high y stream (Exceptional TN waters) leave in place a 60-ft natural riparian buffer between stream and land application area.	14	4.10.2.E	N/A	0.0	RECET	<b>VED</b>

Name of Owner:

SOPCD Requirer	SOPCD Requirements*				FOR TDA USE ONLY	
Required Element	Permit Page#	Citation	Item Addressed in (C)NMP on Page #	Initials	Comments	Completed (Yes/ No)
All inputs used in open storage structure design including climate data for 30 previous years with monthly precipitation and evaporation values, the number and types of animals, anticipated animal sizes or weights, any added water and bedding, any other process wastewater, size and condition of outside areas exposed to rainfall and contributing runoff to the open manure storage area.			8	00		
Documentation of the total volume for solids accumulation, design treatment volume, total design volume, approximate number of days for ge capacity.	17	5.2.G	8-17	00		
If any earthen structures were constructed or modified after April 13, 2006, a subsurface investigation is provided.	15	4.11.B	N/A	PO		

Comments:	:	 <del></del>	<u>.                                    </u>	<u> </u>	

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# Division of Water Pollution Control 401 Church Street, 6<sup>th</sup> Floor L & C Annex, Nashville, TN 37243 (615) 532-0625

# CONCENTRATED ANIMAL FEEDING OPERATION (CAFO) STATE OPERATING PERMIT (SOP) NOTICE OF INTENT (NOI)

	10/						
Type of permit you are reque	sting. SOPCD0000 (desig	ned to dischar	ge) 🔲 SO	2C00000	(no discharge	e) 🗍 Uni	known, please advise
Application type:	New Permit			nit Reissu	-	_	mit Modification
	If this NOI is submitted for	or Permit Modifi	_				
OPERATION IDENTIFICAT							
Operation Name: Dew	Dy Pork LLC					County:	Fasette
Operation Location/ 465	50 Old Suckson Rd					Latitude:	35, 296/11
Physical Address:	ui Northeast of Sum	eville Tu	000 Del Ja	د گار دردگاء	d	Longitude:	89, 288333
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If any other State or Federal	receiving water(s):			ist those p	ermit numbe	ers:	madycreet
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Type of Animal Waste Mana (check all that apply)	V Liquia		m (i.e. covered	tank und	er harn nit e	ste )	
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PERMITTEE IDENTIFICAT	ION	· ·					- T
Official Contact (applicant):	1,0	Title or Posi	tion:				
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4855 Old Phone number(s): 901-465		E-mail:	ROFFINGERING CO. C.	Мания в при	unakuukonänöömaa		
901-413	-1570 (cell)						
Optional Contact:		Title or Posi	tion:				
Address:	iikinsaansaaninteenteenteenteenteenteenteenteenteent	City:		erietidialkir varantikal	State:	Zip:	Correspondence
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Phone number(s):	and annual annual terreterran is a market annual pepulat distribute (e-1402-0140 felbat	E-mail:	elitetite seden erteriterite retirente televitetit pidanter	rikens retensible feelesselesse.		A CONTRACTOR AND ADDRESS AND A	□ mvoice
APPLICATION CERTIFICATIO	N AND SIGNATURE (must be sig	ned in accorda	ance with the re	auiremen	ts of Rule 12	200-4-505)	
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	inquiry of the person or p						
for gathering the inform	ation, the information sub	omitted is, to	o the best of	my kno	wledge an	d belief, tr	ue, accurate, and
	nat there are significant p	enalties for	submitting	false inf	ormation,	including t	he possibility of
fine and imprisonment f	or knowing violations.		<b>C</b> 1:				
Name and title; print or type			Signature		7	Da	
Doug Dowly	Owner Manager			rilg d	Dowde	2 (	6 \ 15 \ 11
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#### Introduction

Dowdy Pork's facility consists of six swine barns, four lagoons, and a compost shed. Four barns are included in this plan: two combination breeding and gestating, one farrowing, and one isolation, as well as the lagoon these barns reed. These barns are all shallow pit flush barns. The lagoon and barn plans show how they flush into the lagoon through a series of underground pipes.

The lagoon was designed by W.A. Millsaps, Engineer with SCS, now NRCS. Copies of the designs and capacities have been included in this plan. The clay lined lagoon will maintain 2 feet of freeboard. The lagoon is also fenced around completely. Lagoon levels are checked weekly, and rainfall levels are recorded on the farm to keep track of total intake.

We have recently added a small separator that enables us to cut water usage by recirculating flush water off of the lagoon. The lagoon water is applied to 70 acres of bermuda hay and 53 acres of row crop. Only one field, H-3, has no manure applied to it, due to the underground system not reaching it at this time. The manure is moved through an underground system of pipes with risers located in the fields. Manure is applied with reel guns and K-line pod systems. The reel guns put out .25" (6,788.5 gal/ac) or less per trip to allow for proper absorption and to minimize run off. The K-line pod system runs at a very low pressure, allowing us to put out .5" (13,577 gal/ac) over a six our span without run off.

The manure is applied at rates based on the Phosphorous index worksheet provided by NRCS, and the MMP Nutrient removal rates for the permanent bermuda fields and the rotational crops on the fields in row crop. The yield goals and rotation schedules are all shown in the application charts prepared for the fields used for manure based fertilizer. The commercial rates for N & K are on the charts. No commercial based P will be applied since you can see most P rates are in the High to Very High range according to soil sample results. The N & K will be applied on an as needed basis to maintain nutrient levels based on soil samples and MMP recommendations

Hybrid bermuda for hay is utilized in our plan because of its ability to use more nutrients (particularly P) and top erosion, thus stopping the loss of phosphorus. Our row crop fields that are next to Catron Creek have a 40 foot permuda buffer strip to control erosion and stop the loss of nutrients into Catron Creek.

The other two barns on the west side of the farm were designed on a closed system, three stage lagoon. The system recirculates flush water out of the third stage back through the barns. The two barns together hold less than 650 head at any given time. One is a farrowing barn, while the other is a barn for gilts to acclimate them to our system. The lagoons do have pumps and pipes in place to pump into our underground system and spread on the land in the event of an emergency that requires us to drop the water level quickly.

The barns are checked daily for fresh water leaks, and all water nipples and troughs are checked weekly for any routine maintenance problems. The lagoons were designed with levees, so that only waste water and direct rainfall get into them. On the map, the lagoon required for this CNMP is labeled L-1. To the south of L-1, about 300 yards, are two ponds labeled W-1 and W-2. We use these ponds as extra storage, if needed, during the winter months. We have an underground pipe that carries water under Old Jackson Rd from L-1 to W-1. W-2 is located directly below W-1 and catches any overflow.

In the summer months, we can pump water from W-2 back into W-1, if needed, as well as pump water from W-1 back to L-1 to spread on the land. We do this so we can limit the use of freshwater, since on page 8 of this NCMP, NCRS stated in the original plan that fresh water may be needed during the drier months of the year. We eliminate the use of freshwater by using the winter water caught in W-1 and W-2, which drops the water level for winter storage in those ponds.

x Dong Doudy

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#### **Barns**

(barns are numbered to coincide with map)

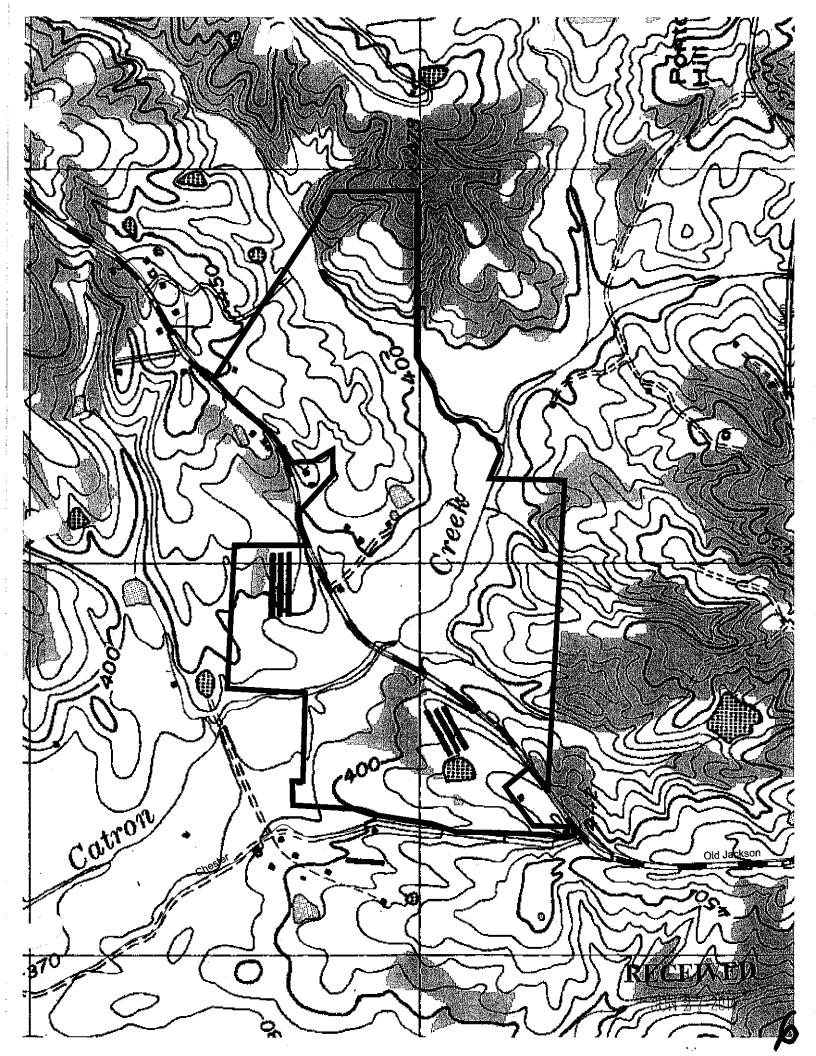
- 1. Gestation Barn
- 2. Gestation Barn
- 3. Farrowing Barn
- 4. Receiving (isolation) barn

#### **Fields**

(fields are numbered to coincide with map and soil samples)

- E-1 Row Crop Wheat, Soybean, Corn, Cotton Rotation
- E-2 Tifton Bermuda Hay
- E-3 Row Crop Wheat, Soybean, Corn, Cotton Rotation
- E-4 Tifton Bermuda Hay
- E-5 Tifton Bermuda Hay
- E-6 Tifton Bermuda Hay
- E-7 Row Crop Wheat, Soybean, Corn, Cotton Rotation
- E-8 Tifton Bermuda Hay
- E-9 Tifton Bermuda Hay
- E-10/11 Tifton Bermuda Hay
- H-1 Tifton Bermuda Hay
- H-2 Row Crop Wheat, Soybean, Corn, Cotton Rotation







# Waste Management System Storage Requirements

For Fayette County, Tennessee - 4 wetest months Moscow, Tennessee

Month Precip(in.'s)	Pan Coeff.	Nov.	Dec. 4.99	Jan. 4.75	Feb. 4.69	Mar. 5.56	Total
Evaporation			1.20	0.90	1.10	2.60	
FWS Evaporat'n.	0.766		0.92	0.69	0.84	1.99	
Balance Rf		0.00	4.07	4.06	3.85	3.57	15.55

For remaining months evaporation has a more significant effect on the balance. In the following 4 months of April thru July, rainfall exceeds evaporation by only 2 in. For August thru November, Rainfall only exceeds evaporation by 0.27 in.

With the exception of unseasonable weather, more fresh water may be needed for drier months.

Subtotal From Page 1:						373743
Adjust for Rainfall Storage - De	ec. through Ma	rch (in.)	15.55 in.	=	1.30	ft.
25Yr 24 Hr. Stm. Rainfall for Total Precip & Dstorm =	Fayette Co., ไ	enn. (in	6.4 in.	=	0.53 1.83	
Approx. Area of Rf for estimate	ed pond area ( Rf	sq. ft.) =	Dstm	84000		
Approx. Rf + Dstm Vol. =	108830	+	44520			153350
Subtotal Req'd. Storage (c.f.)	= .					527094
Capacity of system per W.A. M	ilsap's design	=				632145

SCS ENG 529 EV 8 69

#### EARTHWORK COMPUTATION SHEET

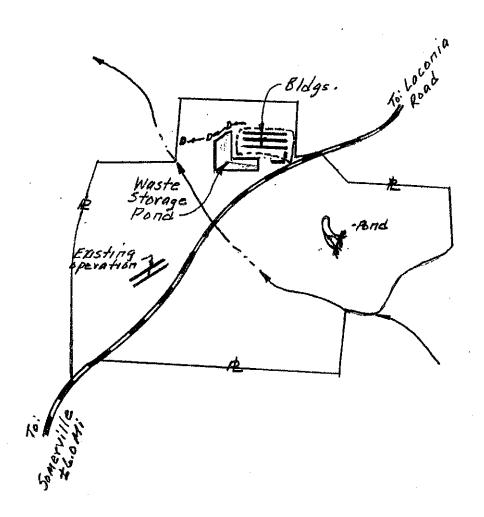
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EARTHWORK	COMPUTATION SHEET	
LOCATION Fayette Co	OWNER Earl	Dowdy
WATERSHED	SUB-WATERSHED	SITE NO.
CONTRACTOR	COMPUTED BY	DATE
ITEM Stor. Vol. Comp.	CHECKED BY	DATE
CONTRACT NO.	ESTIMATE CU.	YDS, ACTUAL CU. YDS.
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Line-J		3490	4/90	<del>                                     </del>	209500		
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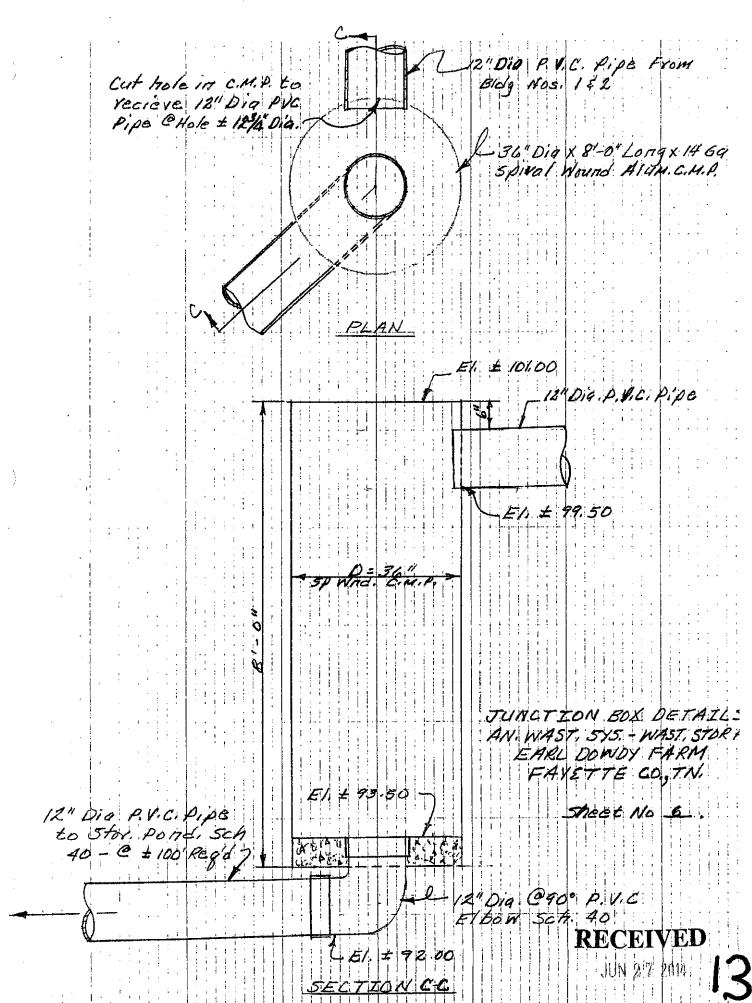
SITE LOCATION MAP (No Scale)

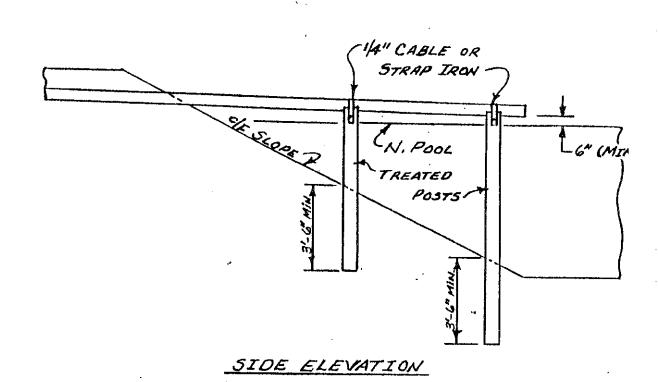
SITE LOCATION MAP

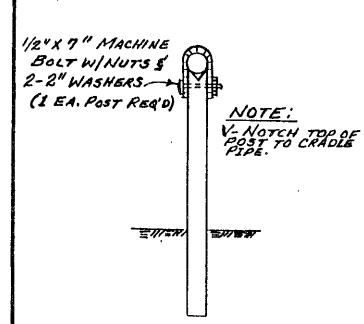
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GARL DOWDY FARM

JUN 2 7 2014 FAYETTE CO., TENN, 12







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FRONT ELEVATION

RECEIVED

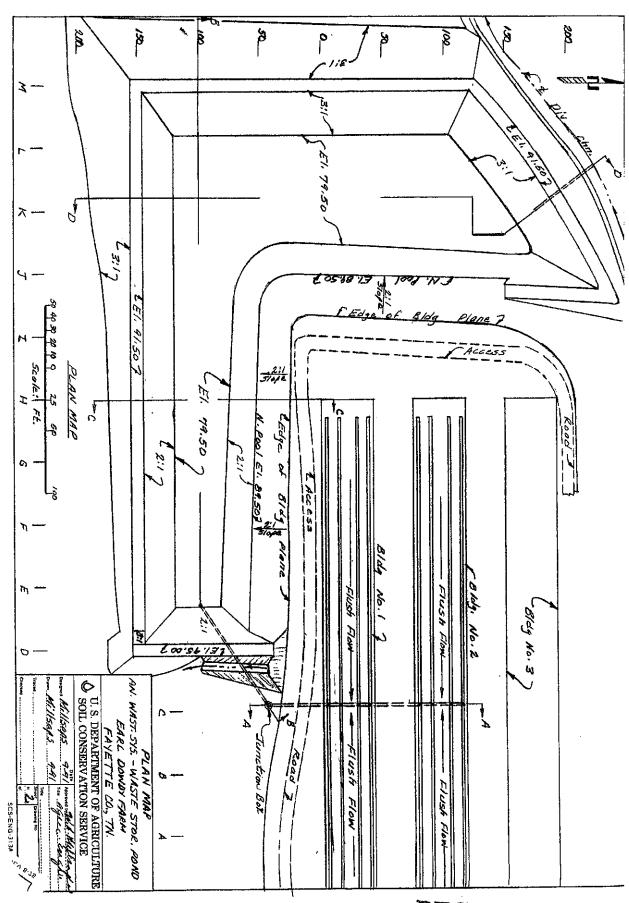
JUN 27 2014

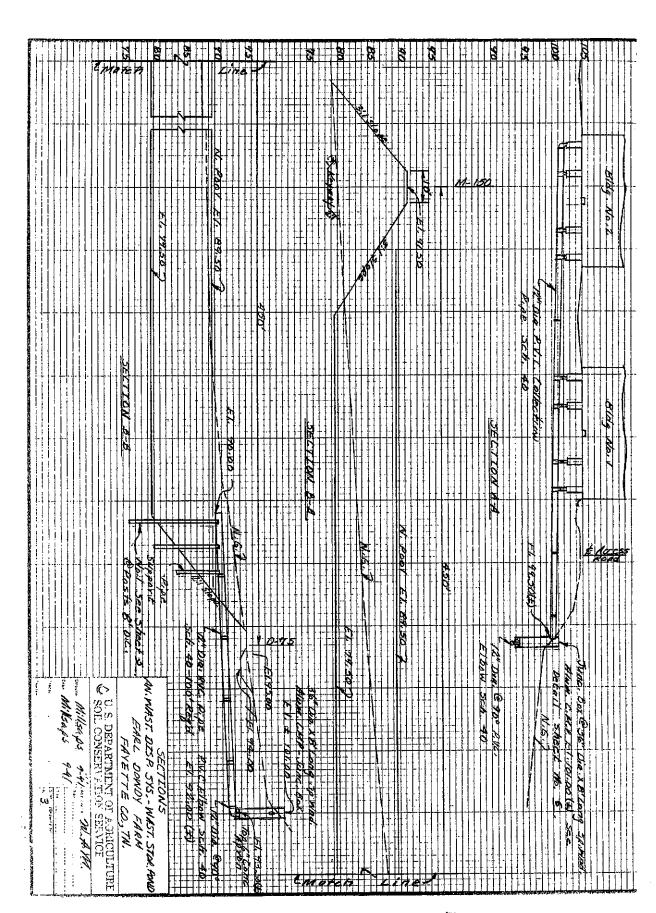
BENT DETAILS

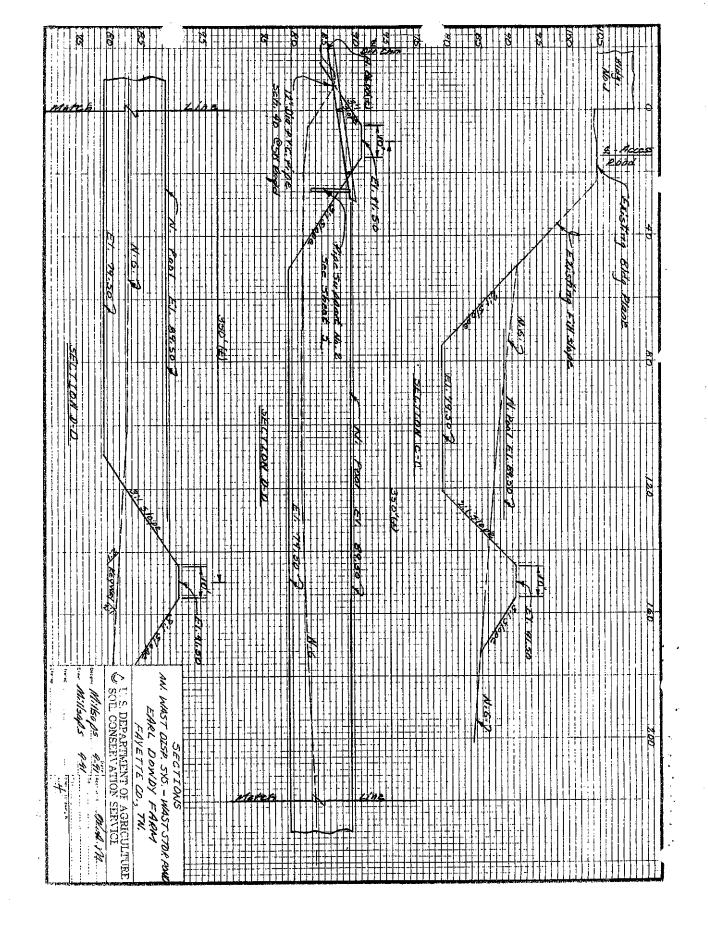
BENT DETAILS	
ANIMAL WASTE DISPOSAL SYST	TEA
EARL DOWDY FARM	
FAYETTE CO., TN.	

U. S. DEPARTMENT OF AGRICULTUR SOIL CONSERVATION SERVICE

Designed Millsaps 9-91 Date	Approved by WAM
DIEWN MILLSA-PS 8-80	
	Sheet Drawing No.







Field	Acres	Crop or Rotation Description	Soil Test Soil Test	oil Test	Manure	Application	
fentification			<u>.</u>	¥	Application Method	Timing	
교	2	Wheat, Soybean, Corn, Cotton Rotation See Sample See Sample Surface Applied, Incorporated afte 5 days	See Sample Se	e Sample	Surface Applied, Incorporated after 5 days	Mar Nov.	
E-2	9	Tifton Bermuda Hay	See Sample Se	e Sample {	See Sample See Sample Surface Applied	Mar Nov.	
Э	7	Wheat, Soybean, Corn, Cotton Rotation See Sample See Sample Surface Applied, Incorporated afte 5 days	See Sample Se	e Sample (	Surface Applied, Incorporated after 5 days	Mar Nov.	
E-4	15	Tifton Bermuda Hay	See Sample Se	e Sample §	See Sample See Sample Surface Applied	Mar Nov.	
E-2	œ	Tifton Bermuda Hay	See Sample Se	e Sample §	See Sample See Sample Surface Applied	Mar Nov.	
E-6	9	Tifton Bermuda Hay	See Sample Se	e Sample §	See Sample See Sample Surface Applied	Mar Nov.	
E-7	19	Wheat, Soybean, Corn, Cotton Rotation See Sample See Sample Surface Applied, Incorporated afte	See Sample Se	e Sample S	Surface Applied, Incorporated after 5 days	Mar Nov.	
E-8	2	Tifton Bermuda Hay	See Sample Se	e Sample {	See Sample See Sample Surface Applied	Mar Nov.	
E-9	7	Tifton Bermuda Hay	See Sample Se	e Sample §	See Sample See Sample Surface Applied	Mar Nov.	
E-10/11	6	Tifton Bermuda Hay	See Sample Se	e Sample §	See Sample See Sample Surface Applied	Mar Nov.	
<u>+</u>	10	Tifton Bermuda Hay	See Sample Se	e Sample	See Sample See Sample Surface Applied	Mar Nov.	
H-2	2	Wheat, Soybean, Corn, Cotton Rotation See Sample See Sample Surface Applied,	See Sample Se	e Sample	Surface Applied,	Mar Nov.	
				4	Incorporated after 5 days		

# Nutrient Budget Worksheet I. Annual Nitrogen Production

7	(column 2 x (column 3+1000) x column 4 x column 5 x column 6)	= 7021	3473	- 1025	296	H			H .	15	11
6	(Jable 3 rage 10) N Availability Factor	9/,	i,	ka ,	ō						
5	(Table 4 Fage 6) Lbs TKN/day per 1000 lb. of animal	× /9 ×	x 64,	, 2 4	× 09,	X	×	×	×	×	X
4	Confinement <sup>7</sup> period (days/year)	+1000× 365 ×	+1000 x 3CS x	+ 1000 x 365 x	+ 1000 x 365 x	* 1000 x	+ 1000 ×	+ 1000 x	+ 1000 x	+ 1000 x	+ 1000 x
m	Average Weight 6	450 +10	450 +10	260 +10	+ 10	. 10	+ 10	- 10	+ 10	+ 10	+ 10
7	Number <sup>5</sup>	/560 ×	88	300	× 008/	X ************************************	×	×	×	×	×
	Animal Type	Ges. 50w	Lee, Sou	Gilts	- 4 G						R
	,										-41. Ti.,

Total PAN ///

3 See page 9 for explanation of animal numbers.

See page 9 for explanation of average animal weight. // 8/4 ÷ 2/00 = 5.6 /bs\sew\4/

3 /See page 9 for explanation of confinement period.

# Nutrient Budget Worksheet 4. Nutrient Utilization

25 Fraction of total N (column 24 + total PAN from box on page 16)	30	17%	27%	20%	25%	2016	w
24 Lbs of N Used (column 22 x column 23)	4500	386	3200	3400	3000	3400	000/7
23 Acres	- SS		©	= 7			0
22 N Requirement Table 4 value less other nitrogen sources.	7% 0%	× OBJ	× 20/~	1/00 x	13.0 ×	700 ×	V COP
21 Yield Potential (Table 4)	150-175	la Torres	9 Tows	9 Tows	125 E	a Town	7 7005
20 Crop	Cork	Bermule	King ph		Card		Hybrid
· Field ID		Fertilizer	10	) (o		Fertilizer E 10 15 11	
Use.	Fertilizer	Fertilizer	Fertilizer E. 5	Fertilizer E. Co.	Fertilizer E. C.	Fertilizer 🗲	Fertilizer    -

Sub-total = Control (Fraction used for fertilizer)

Sold or Given Away + (Fraction sold or given away)

Poultry Manure Fed to Cattle + (Fraction used as feed)

Total Control (Fraction used as feed)

Nutrient Budget Worksheer 2. Annual Phosphorus Production

	P <sub>2</sub> O <sub>3</sub> /day per (column 9 x (column 10 +1000) x column 11 x column 12)	= 34492	EGL 7/	= 5124	1872	R		THE CONTRACT OF THE CONTRACT O	The state of the s	Table of the second	
12	(Table 2) Lbs P <sub>2</sub> O <sub>5</sub> /day per 1000 lb.of animal	h1.	136	00/	15,		Property of the Party of the Pa	Pro-residence of the second of	Maginetin - minutelature in makalaja nggi - makalaja da		
<u> </u> 		×	×	×	*	×	×	×	×	*	×
SI Units Tank	Confinement period (days/year)	2. 9. C.	365	35.5		SAA YA MININTENNI PARINTENNI MARKATANI MARKATANI MARKATANI MARKATANI MARKATANI MARKATANI MARKATANI MARKATANI M		THE PRINCE WHEN THE PROPERTY OF THE PROPERTY O			Note that the state of the stat
		* 1000 ×	÷ 1000 x	+ 1000 x	+ 1000 x	* 1000 ×	÷ 1000 x	+ 1000 ×	+ 1000 x	∻ 1000 x	* 1000 ×
01	Average Weight	450	460	260	6					4	4
		×	*	×	×	×	×	×	×	×	*<
6	Number	1500	200	300	1800	The same of the sa			Television marginals are so the dispersion to the marginal state of the sound		
00	Animal Type	Ses 50 W	has sow	2 2			THE PROPERTY OF THE PROPERTY O				

58,24/+2100 # 27,7 16s (Sewlyr

Total P as P,O, 58, 3411

Nutrient Budget Worksheet 3. Annual Potassium Production

19  K <sub>2</sub> O (lbs /year)  (column 15 x (column 16 + 1000) x column 17 x column 18)	= 34 492	= 17,739	= 4565	= 1374	·	11				11	Total K as K <sub>2</sub> O 58, 165
18 (Table 2) Lbs K <sub>2</sub> O/day per 1000 lb.of animal	41.	,36	16	4.							Total K as F
	*	×	×	×	*	×	× ,	× ,	×	*	
17 Confinement period (days/year)			36.5	No.						A CAMPAGE A SPANNES COMMANDES COMMAN	
	+ 1000 ×	+ 1000 x	+ 1000 ×	+ 1000 ×	+ 1000 ×	+ 1000 ×	+ 1000 x	+ 1000 x	+ 1000 x	+ 1000 x	
16 Average Weight	480		260	50							• •
	*	×	× 1	× !	×	×	*	×	×	× 1	1
15 Number	0057		8	000				ANA SERVICE STREET, SERVICE ST	tale da digita prime de la magnete que se rei rein al la		
14 Animal Type	Ges Saw	Indice States	Gilts	Pigs							1
<b>&gt;</b>									רכו	יינדי אינו	TX7

58,165 +2100 = 271651 Sun 145



2790 Whitten Rd. Memphis, TN 38133 (901) 213-2400 Fax (901) 213-2440

#### LAND APPLICATION ANALYSIS

Client:

Dowdy Pork, LLC DOUG DOWDY

Grower:

Report No: : Cust No:

14-139-0304

4855 OLD JACKSON RD.

Analytical Testing

Date Printed:

10982 05/28/2014

Page:

1 of 1

SOMMERVILLE, TN 38068

PO:

Date Recd:

5/19/2014

Lab Number: 90713

Sample Id: Sample 3

Testu. W.	Analysis	Rounds Per (000 Gallons)
tti s.Test. / s.	As Received Dny I	Basis As Received May Basis
Nitrogen, N %	0.080	6.80
Ammoniacal-N		
Phosphorus, P %	0.006	1.17 P <sub>2</sub> O <sub>5</sub>
Potassium, K %	0.030	3.06 K <sub>2</sub> O
Sulfur, S %	<0.005	<0.425
Magnesium, Mg %	0.005	0.425
Calcium, Ca %	0.007	0.595
Sodium, Na ppm	<250	<2.13
Ігол, Fe ррт	<50.0	<0.425
Aluminum, Al ppm	<50.0	<0.425
Manganese, Mn ppm	<5.00	<0.042
Copper, Cu ppm	<2.50	<0.0212
Zinc, Zn ppm	<5.00	<0.042
Boron, B ppm	<25.0	<0.212

Test,	Result
Moisture %	99.7
Solid %	0.3

Additional Information	Result
Туре	As Received

Additional Tests	Result
Digestion ,	Digested

#### Comments:

RMMA Recommended Methods of Manure Analysis, Peters et al, 2002, In Press SW USEPA, SW-846, Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, 3rd Ed. **Current Revision** 

Oscar Ruiz



2790 Whitten Rd. Memphis, TN 38133 (901) 213-2400 Fax (901) 213-2440

**SOIL ANALYSIS** 

Client: Grower: Report No: 11-228-0569 Dowdy Pork, LLC Cust No: 10982 DOUG DOWDY Date Printed: 08/17/2011 4855 OLD JACKSON RD. Date Received: 08/16/2011 SOMMERVILLE TN 38068 PO: Page: 1 of 11

Lab Number: 44642

Field Id:

Sample Id: E-1

Test	Method	Results	SOIL TEST RA	· · · · · · · · · · · · · · · · · · ·
Soil pH	1:1	4.9		6.9
Buffer pH	BPH	7.77		meg/100g
Phosphorus (P)	M3	54 LB/ACRE		
Potassium (K)	M3	150 LB/ACRE		Seturation
Calcium (Ca)	МЗ	1252 LB/ACRE	Company of the Compan	%K 2,8
Magnesium (Mg)	M3	414 LB/ACRE		%Ca 45.4
Sulfur (S)				%Mg 25.0
Boron (B)				%H 26.7
Copper (Cu)				Hmeq 1.8
Iron (Fe)				
Manganese (Mn)				
Zinc (Zn)				K: Mg:Ratto
Sodium (Na)				0.11
Soluble Salts				J. I. Wan
Organic Matter	LOI	1.7 % ENR 78		
Nitrate Nitrogen				
		•		

#### SOIL FERTILITY GUIDELINES Prev Crop: Soybeans

Crop: Cotton

Yield Goal: 1000 lbs/acre

**Rec Units:** 

LB/ACRE

(IDe) -LIME (tone) N P <sub>3</sub> O <sub>8</sub> K <sub>3</sub> O Mg S B Cu Mh Zn Fe 3500 1.8 100 50 106 0  Crop:											, ,	
A STATE OF THE STA	Crop:								Rec U	nits:		
	3500	1.8	100	50	106	0						
	(lbs) LIN	/IE (tons)	N.	P, O <sub>5</sub>	K.0	Mg	S	В	Cu	Mn	Zn	Fe.

#### Comments:

#### Cotton

Limestone application is targeted to bring soil pH to 6.5.

- · If the cotton field has a history of plants with excess vegetation reduce the nitrogen rate.
- When cotton follows soybeans, reduce N rate 10 to 20 lbs/Acre. When it follows a good legume cover crop, reduce N rate 40-50 lbs/Acre.
- · Apply 0.5 to 1 lb boron(B)/Acre for cotton as a soil application. Or apply 0.5 lb boron (B) per acre at a rate of 0.25 lbs boron (B)/Acre per application with insecticide spray.
- · Split N rate on cotton may be beneficial. Apply 1/2 to 2/3 of the nitrogen prior to planting and the remainder as a sidedressing at first square to first bloom.



2790 Whitten Rd. Memphis, TN 38133 (901) 213-2400 Fax (901) 213-2440

SOIL ANALYSIS Client: Grower: Report No: Dowdy Pork, LLC 11-228-0569 Cust No: 10982 DOUG DOWDY Date Printed: 4855 OLD JACKSON RD. 08/17/2011 Date Received : SOMMERVILLE TN 38068 08/16/2011 PO: Page: 2 of 11

Lab Number: 44643

Field Id:

Sample Id: E-2

Test	Method	Results		SOIL	TEST RATIN	GS		Calculate	d Cation
Soil pH	1:1	5.5		2007-021-005	Medium 2	** ; Č }		Exchange	Capacity
Buffer pH	BPH	7.74			-	1		10	.4
Phosphorus (P)	M3	64 LB/ACRE						meq/	100g
Potassium (K)	M3	244 LB/ACRE	THE STATE OF THE PROPERTY			İ		Calculate	
Calcium (Ca)	М3	2140 LB/ACRE						Satur	ation
Magnesium (Mg)	M3	646 LB/ACRE			i			%K	3.0
Sulfur (S)				·			i	%Ca	51.4
Boron (B)			7			ļ		%Mg	25.9
Copper (Cu)		<del>***</del>					1	%Н	20.0
iron (Fe)			<del>-</del>   [					Hmeq	2.1
Manganese (Mn)					ŀ				
Zinc (Zn)			<b>-</b>	]		Ì	ı		
Sodium (Na)			1	İ				K: Mg	Ratio
Soluble Salts	T		٦	1	]		Γ	0.12	
Organic Matter	LOI	3.0 % ENR 104	<del>1</del>			İ		21.12	- (2004)
Nitrate Nitrogen			┦	j			1		
			<b>⊣</b>	Ţ	Ì				

#### SOIL FERTILITY GUIDELINES

Crop :	HILOH	bermudagrass	pasture

COLUMN TO SERVE OF THE SERVE OF	oonnaaayaass	pasture		Yiel	d Goal : 5	tons/acre	Rec Units:	LB/ACRE
(ed)) []N	ИЕ (tоль)	N	P.O <sub>6</sub>	K ₂O	Mg	S B	Cu Mn	Zn Fe
2500	1.3	250	56	93	0			44
Crop:					<u> </u>		Rec Units:	
					T	<del>                                     </del>	Tion office.	
Commonto	<del></del> _	<u> </u>	<u> </u>		<u> </u>			

#### Comments:

#### 'Tifton' Bermudagrass pasture

Limestone application is targeted to bring soil pH to 6.5.

- To establish coastal or hybrid bermuda apply the phosphorus and potassium and 30 to 50 lbs N/acre before sprigging.
- After sprigs start to grow, topdress with 40-60 lbs N/Acre. Topdress with an additional 30-40 lbs N/Acre in August or early September if needed.
- For grass hay apply 50 lbs. N/Acre for each ton of expected yield. The normal range is 200-500 lbs. N/Acre. Apply 75-100 lbs. N/Acre when spring growth begins and 75-100 lbs. N/Acre after each harvest.
- · On light soils with high grass hay yields, soil test annually to maintain soil pH and nutrient level.
- For soils low in sulfur, apply 20-40 lbs of sulfur as a sulfate in the spring with the nitrogen.
- · For grass hay or pasture needing high rates split the P and K application. Apply 1/2 in the spring and 1/2 in late summer.

RECEIVED



2790 Whitten Rd. Memphis, TN 38133 (901) 213-2400 Fax (901) 213-2440

SOIL ANALYSIS Client: Grower: Report No: 11-228-0569 Dowdy Pork, LLC Cust No: 10982 DOUG DOWDY Date Printed: 08/17/2011 4855 OLD JACKSON RD. Date Received: 08/16/2011 SOMMERVILLE TN 38068 PO: Page: 3 of 11

Lab Number: 44644

Field Id:

Sample Id: E-3

Test	Method	Results	SOIL TEST RATINGS	Calculated C	ation
Soil pH	1:1	4.6	2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.	Exchange Ca	pacity
Buffer pH	ВРН	7.87		5.9	
Phosphorus (P)	M3	36 LB/ACRE		meq/100g	<u> </u>
Potassium (K)	M3	190 LB/ACRE		Calculated C Saturatio	ation
Calcium (Ca)	M3	850 LB/ACRE			
Magnesium (Mg)	M3	592 LB/ACRE		%K 4.	
Sulfur (S)					6.0
Boron (B)				-	1.8
Copper (Cu)			1		7.6
Iron (Fe)			†	Hmeq 1.0	.0
Manganese (Mn)					
Zinc (Zn)					
Sodium (Na)				K:MgRat	io.
Soluble Saits				0.10	<b>5</b> 77
Organic Matter	LOI	1.4 % ENR 72	1		
Nitrate Nitrogen					

#### **SOIL FERTILITY GUIDELINES**

Crop : Cotton				Yield	d Goal : 1000	lbs/acre	Rec Units:	LB/ACRE
(ibs) LIN	E (tons)	N-	P, O <sub>6</sub>	K ₂0	Ma	S B	Cu Mn	Zn Fe
3500	1.8	100	68	95	0			Service and the service of the servi
Crop:			,	-	<u>'                                     </u>		Rec Units:	<u> </u>

#### Comments:

#### Cotton

Limestone application is targeted to bring soil pH to 6.5.

If the cotton field has a history of plants with excess vegetation reduce the nitrogen rate.

· When cotton follows soybeans, reduce N rate 10 to 20 lbs/Acre. When it follows a good legume cover crop, reduce N rate 40-50 lbs/Acre.

· Apply 0.5 to 1 lb boron(B)/Acre for cotton as a soil application. Or apply 0.5 lb boron (B) per acre at a rate of 0.25 lbs boron (B)/Acre per application with insecticide spray.

· Split N rate on cotton may be beneficial. Apply 1/2 to 2/3 of the nitrogen prior to planting and the remainder as a sidedressing at first square to first bloom.

RECEIVED

#### Lab **UNITED SOIL SERVICES**

108 South Crystal Lane PO Box 226 Fairbury, II. 61739 815-692-2626



Agent **Mark Roberson** 731-697-4031

**TurnKey Soil Services** 127 W. Market St. Somerville, Tn. 38068

Samples pulled on: 11/4/2013

Grower: Dowdy Pork LLC

Lab#

8942

Samples pulled by : M. Roberson

Farm ID : Earl

Date:

11/12/2013

Samples submitted: 11/6/2013

Fields

E4

Acres:

15.3

		Management Assessment	Crops & Recommendations										
Test	Method	-Results	Rating	Comm	on (ap)	Hybri	d.(47)	V.					
soil PH %	1:1	5	1.5	Maintain	build (4)	Maintain	build (4)	Maintain	b				
Buffer PH %	bPH	6.7	M3	N - 240u	*	N - 300u	*		build (4)				
Phos (P)	M3	64	Opt	P - 24u	*	P - 28u	*	N	*				
Potash (K)	M3	188	L	K - 92u	5ս	K - 101u	5u	P	*				
Calcium (Ca)	МЗ	1869		*	*	*	Ju ∗	K *	*				
Magnesium (Mg)	M3	315	Opt	*	*	*	*		*				
Sulpher (S)	MЗ	23.2	L	<b>5.5</b> lbs	*	<b>6.6</b> ibs	*	*	**				
Zinc (Zn)	МЗ	*	*	*	*	*	*	Siz.	*				
Iron (Fe)	M3	*	*	*	*	*	*	str	*				
Manganese (Mn)	MЗ	*	*	*	*	*	*	*	**				
Copper (Cu)	M3	*	*	*	*	*	站	124	T B				
Boron (B)	M3	*	*	*	*	*	*	sik	**				
Organic Matter (OM)	WB	2.2	*	*	*	*	*	*	*				

Cation Exchange Capacity - CEC	10.4		Lime Recommendations (in tons / gc)  Apply 2 tons of lime / acre in fall & 2 tons of lime / acre in
Potassium - % K	2.3	*	spring of 2014
Calcium - % Ca	45.0	糠	
Magnesium - % Mg	12.7	4	
Hydrogen - % H	40.0	*	

#### Comments / suggestions

- Split applications of N for maximum results. Apply 60 units before ist cutting and after each cutting as the bermuda begins 2" of greening. Recommendation based on 3 cuttings commom & 4 cuttings hybrid
- to avoid controlling weeds with chemical and hasten bermuda greening, burn off fields of bermuda around March 1st or after dander of freeze is past. May increase yield by as much as 1/2 ton
- Sulfur for best utilization of sulfur apply no sooner than 4 to 5 weeks before cuttings. Normal uptake of sulfur in bermuda is around 5lbs / ton yield. RECEIVED

#### Lab **UNITED SOIL SERVICES**

108 South Crystal Lane PO Box 226 Fairbury, Il. 61739 815-692-2626



<u>Agent</u> Mark Roberson 731-697-4031

**TurnKey Soil Services** 127 W. Market St. Somerville, Tn. 38068

Samples pulled on: 11/4/2013

Samples pulled by: M. Roberson

Samples submitted: 11/6/2013

Grower: Dowdy Pork LLC

Farm ID: Earl

Fields : E5 Lab# 8946

11 / 12 / 2013 Date:

Acres: 7.7

		ions							
Test	Method	Results	Rating	Comm	on (ar)	Hybri	d (et)		
soil PH %	1:1	5.9	0.6	Maintain	build (4)	Maintain	build (4)	Maintain	build (4)
Buffer PH %	bPH	7.0	M3	<b>N - 240</b> u	*	N - 300u	*	N	*
Phos (P)	M3	250	VH	P-0	*	P-0	*	P	*
Potash (K)	M3	312	Opt	<b>K - 36</b> u	津	K - 45u	*	К	*
Calcium (Ca)	M3	2205	M	*	*	*	*	*	本
Magnesium (Mg)	M3	315	Opt	*	*	*	瑑	*	*
Sulpher (S)	M3	30.7	M	<b>3.3</b> lbs	*	<b>4.0</b> lbs	*	*	*
Zinc (Zn)	M3	承	*	*	*	*	*	*	*
Iron (Fe)	M3	*	*	*	alj:	*	*	*	*
Manganese (Mn)	M3	*	*	*	*	*	*	*	*
Copper (Cu)	M3	*	*	*	*	*	*	*	*
Boron (B)	МЗ	*	*	*	*	*	*	*	*
Organic Matter (OM)	WB	2.1	*	*	*	*	*	*	*

Base Saturations	(%)		Lime Recommendations (in tons / ac)
Cation Exchange Capacity - CEC	9.3	*	Apply 3,000lbs of lime in late fall or winter
Potassium - % K	4.3		Apply 5,000 or lime in late lan or winter
Calcium - % Ca	5 <del>9</del> .5		
Magnesium - % Mg	14.2		
Hydrogen - % H	22.0	*	

#### Comments / suggestions

- Split applications of N for maximum results. Apply 60 units before ist cutting and after each cutting as the bermuda begins 2" of greening. Recommendation based on 3 cuttings commom & 4 cuttings hybrid
- to avoid controlling weeds with chemical and hasten bermuda greening, burn off fields of bermuda around March 1st or after dander of freeze is past. May increase yield by as much as 1/2 ton
- Sulfur for best utilization of sulfur apply no sooner than 4 to 5 weeks before cuttings. Normal uptake of sulfur in bermuda is around 5lbs / ton yield.

#### Lab **UNITED SOIL SERVICES** 108 South Crystal Lane PO Box 226 Fairbury, Il. 61739

815-692-2626



**Agent** Mark Roberson 731-697-4031

**TurnKey Soil Services** 127 W. Market St. Somerville, Tn. 38068

Samples pulled on: 11/4/2013

Samples pulled by: M. Roberson

**Dowdy Pork LLC** Grower:

Lab#

8947

Farm ID : Earl

Date:

11 / 12 / 2013

Samples submitted: 11/6/2013

Fields : E6

Acres:

5.9

Crons & Recommendations

-	trops & kecommendations									
Test	Method	Results	Rating	Comm	on (31)	Hybrid (411)			Cara in the second	
soil PH %	1:1	6.2	0.3	Maintain	build (4)	Maintain	build (4)	Maintain	build (4)	
Buffer PH %	bPH	7.0	M3	N - 240u	*	N - 300u	*	N	*	
Phos (P)	M3	250	VH	P-0	*	P-0	*	P	*	
Potash (K)	M3	252	M	K - 70u	搀	K - 82u	*	К	*	
Calcium (Ca)	M3	3087	Opt	*	*	*	办	*	*	
Magnesium (Mg)	M3	168	Ĺ	*	*	*	非	*	*	
Sulpher (S)	M3	*	*	*	*	*	*	*	*	
Zinc (Zn)	M3	*	*	*	*	*	*	*	*	
Iron (Fe)	M3	*	*	*	*	*	*	*	*	
Manganese (Mn)	M3	*	*	*	*	#	*	*	*	
Copper (Cu)	M3	*	*	*	*	*	*	*	*	
Boron (B)	M3	*	*	*	冰	*	妆	*	s <del>ù</del> r	
Organic Matter (OM)	WB	2.0	*	*	Yp.	*	*	*	沝	

Bose Saturations	(%)		Lime Recommendations ( in tons / ac)
Cation Exchange Capacity - CEC	10.4	*	Apply 4500 // Hone form in 1545 & Hone with the
Potassium - % K	3.1	-	Apply 1500 lbs lime / acre in late fall or winter
Calcium - % Ca	74.2	*	
Magnesium - % Mg	6.7	-	
Hydrogen - % H	16.0	*	

#### **Comments / suggestions**

- Split applications of N for maximum results. Apply 60 units before ist cutting and after each cutting as the bermuda begins 2" of greening. Recommendation based on 3 cuttings commom & 4 cuttings hybrid
- to avoid controlling weeds with chemical and hasten bermuda greening, burn off fields of bermuda around March 1st or after dander of freeze is past. May increase yield by as much as 1/2 ton



2790 Whitten Rd. Memphis, TN 38133 (901) 213-2400 Fax (901) 213-2440

**SOIL ANALYSIS** Client: Grower: Report No: 11-228-0569 Dowdy Pork, LLC Cust No: 10982 DOUG DOWDY Date Printed: 08/17/2011 4855 OLD JACKSON RD. Date Received: 08/16/2011 SOMMERVILLE TN 38068 PO: Page: 6 of 11

Lab Number: 44647

Field Id:

Sample Id: E-7

Teet	Method	Results	SOIL TEST RATINGS	Calculated	Cation
Soil pH	1:1	6.2	Medium.>∗	Exchange C	apacity
Buffer pH	ВРН	7.70	<del>-</del>	12.4	ļ
Phosphorus (P)	M3	48 LB/ACRE		meq/10	10g
Potassium (K)	M3	168 LB/ACRE		Calculated	
Calcium (Ca)	M3	2696 LB/ACRE		Saturati	on
Magnesium (Mg)	M3	720 LB/ACRE			1.7
Sulfur (S)				%Ca 5	54.4
Boron (B)			<del> </del>	%Mg 2	24.2
Copper (Cu)				%H 1	19,4
Iron (Fe)				Hmeq 2	2.4
Manganese (Mn)				I	
Zinc (Zn)					
Sodium (Na)		<u>-</u> -		K: Mg Ré	átio
Soluble Salts				0.07	
Organic Matter	LOI	2.2 % ENR 88			
Nitrate Nitrogen					

#### SOIL FERTILITY GUIDELINES

Crop:	'Tifton'	Bermudagrass	pasture
-------	----------	--------------	---------

Crop . Tillon Bermudagrass pasture				Yield Goal: 5		tons/acre	Rec Units:	LB/ACRE	
(lbs) [.]] 1500	VIE (teins) 0.8	N 250	P, O <sub>6</sub>	K₃0	Mg	S B	Cu Mn	Zn Fe	
Crop :			12	111	<u> </u>		Boo Unites		
				_			Rec Units:		

#### 'Tifton' Bermudagrass pasture

Limestone application is targeted to bring soil pH to 6.5.

- · To establish coastal or hybrid bermuda apply the phosphorus and potassium and 30 to 50 lbs N/acre before sprigging.
- · After sprigs start to grow, topdress with 40-60 lbs N/Acre. Topdress with an additional 30-40 lbs N/Acre in August or early September if needed.
- For grass hay apply 50 lbs. N/Acre for each ton of expected yield. The normal range is 200-500 lbs. N/Acre. Apply 75-100 lbs. N/Acre when spring growth begins and 75-100 lbs. N/Acre after each harvest.
- On light soils with high grass hay yields, soil test annually to maintain soil pH and nutrient level.
- For soils low in sulfur, apply 20-40 lbs of sulfur as a sulfate in the spring with the nitrogen.
- · For grass hay or pasture needing high rates split the P and K application. Apply 1/2 in the spring and 1/2 in late summer.



2790 Whitten Rd. Memphis, TN 38133 (901) 213-2400 Fax (901) 213-2440

**SOIL ANALYSIS** Grower: Report No: 11-228-0569 Dowdy Pork, LLC Cust No: 10982 DOUG DOWDY Date Printed: 08/17/2011 4855 OLD JACKSON RD. Date Received: 08/16/2011 SOMMERVILLE TN 38068 PO: Page: 7 of 11

Lab Number: 44648

Field Id:

Sample Id: E-8

Test	Method	Resulte			OILTEST RAT		13 (1 3 1 2 <u>1 3 1 )</u>	Calculat	ed Cation
Soil pH	1:1	5.2			Medium &			Exchange	Eapacity
Buffer pH	ВРН	7.66	1	ļ			j	10	).6
Phosphorus (P)	МЗ	98 LB/ACRE					_	meq	/100g
Potassium (K)	M3	382 LB/ACRE					<u>                                     </u>		d Cation
Calcium (Ca)	M3	1500 LB/ACRE						Satu	ation
Magnesium (Mg)	МЗ	876 LB/ACRE						_	4.6
Sulfur (S)							<u></u>	%Ca	35,4
Boron (B)								%Mg	34.4
Copper (Cu)						Ì		%Н	25,7
iron (Fe)								Hmeq	2.7
Manganese (Mn)		· · · · · · · · · · · · · · · · · · ·							
Zinc (Zn)									
Sodium (Na)		·····					1	K Mg	Ratio
Soluble Saits				1		1		0,1	
Organic Matter	LOI	2.5 % ENR 94						]	- m45
Nitrate Nitrogen				-					
	-								

#### SOIL FERTILITY GUIDELINES Prev Crop : Corn

Crop: Soybeans

		TOTAL CONTRACTOR SUBSECTION	No. 12 Suprember 1	Yleid	Yield Goal: 50		Rec Units:	LB/ACRE	
(lbs) <u>L  </u>	1	N .	P, O <sub>5</sub>	K₃o	Mg	8 B	Gu Mn	Zn Fe	
3500	<u> </u>	0	30	47	0				
Crop : Com				Yield	Goal : 150	bu/acre	Rec Units:	L BYACDE	
3500	1.8	183	45	49	0	T	Nec onits.	LB/ACRE	
Commente :			L		_	<u> </u>		1	

#### Comments:

#### Soybeans

Limestone application is targeted to bring soil pH to 6.5.

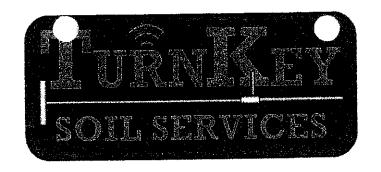
• For soybeans on soils with a pH of 6.2 or less, apply limestone as recommended or plant seed treated with molybdenum. Apply 1-2 corn

Limestone application is targeted to bring soil pH to 6.5.

- Greater N efficiency for corn may be achieved by splitting the N application. Apply 1/4 to 1/3 of the N prior to or at planting and the remainder as sidedress when corn is 8-24 inches high.
- For early planted corn or no till corn, apply a starter fertilizer at least 2 inches from the seed at a rate of 10-20 lbs N/Acre and 30-60 lbs P2O5/Acre.

RECEIVED

#### Lab UNITED SOIL SERVICES 108 South Crystal Lane PO Box 226 Fairbury, II. 61739 815-692-2626



Agent
Mark Roberson
731-697-4031

TurnKey Soil Services 127 W. Market St. Somerville, Tn. 38068

Samples pulled on: 11/6/2013

Samples submitted: 11/12/2013

Samples pulled by: M. Roberson

on Farm ID : Earl

Grower : Dowdy Pork LLC

Fields : E9

Lab# 9250

Date: 11/16/2013

Acres: 6.5

Crops & Recommendations

				UIU	ha or verr	miniciac		CONTRACTOR AND ASSESSED.
Method	Results	Rating	Comm	o <b>a</b> (37)	Hybri	t (en		All and the con-
1:1	6.1	0.4	Maintain	build (4)	Maintain	build (4)	Maintain	build (4)
bPH	6.9	M3	<b>N - 240</b> u	*	N - 300 <sub>ย</sub>	*	N	*
M3	250	VH	P-0	*	P-0	华	P	*
M3	408	VH	K - 11u	*	K - 14u	*	ĸ	ग्रंद
M3	2058	M	*	*	*	**	*	*
M3	399	H	*	*	*	* **	*	*
M3	*	*	*	排	*	非	*	*
M3	*	*	*	*	*	*	*	*
M3	*	*	*	*	*	*	*	A A
M3	*	*	*	*	*	*	*	*
M3	本	*	*	*	*	*	*	**
M3	*	*	*	*	*	*	*	*
WB	2.2	*	*	*	*	*	*	*
	1:1 bPH M3 M3 M3 M3 M3 M3 M3 M3 M3 M3 M3	1:1 6.1 bPH 6.9 M3 250 M3 408 M3 2058 M3 399 M3 * M3 * M3 * M3 * M3 * M3 * M3 *	1:1 6.1 0.4 bPH 6.9 M3 M3 250 VH M3 408 VH M3 2058 M M3 399 H M3 * * M3 * * M3 * * M3 * * M3 * * M3 * * M3 * * M3 * * M3 * * M3 * * M3 * * M3 * *	1:1       6.1       0.4       Maintain         bPH       6.9       M3       N - 240u         M3       250       VH       P - 0         M3       408       VH       K - 11u         M3       2058       M       *         M3       399       H       *         M3       *       *       *         M3       *	Method         Results         Rating         Common (3)           1:1         6.1         0.4         Maintain         build (4)           bPH         6.9         M3         N - 240u         *           M3         250         VH         P - 0         *           M3         408         VH         K - 11u         *           M3         2058         M         *         *           M3         399         H         *         *           M3         *         *         *         *           M3	Method         Results         Rating         Common (31)         Hybrid           1:1         6.1         0.4         Maintain         build (4)         Maintain           bPH         6.9         M3         N - 240u         *         N - 300u           M3         250         VH         P - 0         *         P - 0           M3         408         VH         K - 11u         *         K - 14u           M3         2058         M         *         *         *           M3         399         H         *         *         *           M3         *         *         *<	Method         Results         Rating         Comition (31)         Hybrid (41)           1:1         6.1         0.4         Maintain         build (4)         Maintain         build (4)           bPH         6.9         M3         N - 240u         *         N - 300u         *           M3         250         VH         P - 0         *         P - 0         *           M3         408         VH         K - 11u         *         K - 14u         *           M3         2058         M         *         *         *         *         *         *           M3         399         H         *         *         *         *         *         *         *         *           M3         *	1:1     6.1     0.4     Maintain     build (4)     Maintain     build (4)     Maintain     Maintain       bPH     6.9     M3     N - 240u     *     N - 300u     *     N       M3     250     VH     P - 0     *     P - 0     *     P       M3     408     VH     K - 11u     *     K - 14u     *     K       M3     2058     M     *     *     *     *     *       M3     399     H     *     *     *     *     *       M3     *     *     *     *     *     *     *

Brise Seturations	- (%)		time Recommendations (in tons/ac)
Cation Exchange Capacity - CEC	8.9	*	Apply 1 ton of lime / acre in late fall or winter
Potassium - % K	5.8		Apply 2 toll of killer date in the
Calcium - % Ca	57.5	*	
Magnesium - % Mg	18.6		
Hydrogen - % H	18.0	*	

#### Comments / suggestions

- \* Split applications of N for maximum results. Apply 60 units before ist cutting and after each cutting as the bermuda begins 2" of greening. Recommendation based on 3 cuttings commom & 4 cuttings hybrid
- to avoid controlling weeds with chemical and hasten bermuda greening, burn off fields of bermuda around March
   1st or after dander of freeze is past. May increase yield by as much as 1/2 ton



## A&L Analytical Laboratories, Inc.

2790 Whitten Rd. Memphis, TN 38133 (901) 213-2400 Fax (901) 213-2440

**SOIL ANALYSIS** Client: Grower: Report No: 11-228-0569 Dowdy Pork, LLC Cust No: 10982 DOUG DOWDY Date Printed: 08/17/2011 4855 OLD JACKSON RD. Date Received: 08/16/2011 SOMMERVILLE TN 38068 PO: Page: 9 of 11

Lab Number: 44650

Field Id:

Sample Id: E-10

Test	Method	Results	SOIL TEST RATINGS	. Calculated Cation
Soil pH	1:1	6.0		Exchange Capacity
Buffer pH	ВРН	7.77		8.3
Phosphorus (P)	М3	152 LB/ACRE		meq/100g
Potassium (K)	МЗ	338 LB/ACRE		Calculated Cation
Calcium (Ca)	МЗ	1814 LB/ACRE		Saturation
Magnesium (Mg)	M3	366 LB/ACRE		%K 5.2
Sulfur (S)	1	000 100 101 101		%Ca 54.6
Boron (B)		<del>-</del>		%Mg 18.4
Copper (Cu)		<del></del>		%H 22.2
Iron (Fe)				Hmeq 1,8
Manganese (Mn)		·		
Zinc (Zn)				
Sodium (Na)		<del></del>		K : Mg Ratto
Soluble Salts				0.28
Organic Matter	LOI	2.2 % ENR 88		
Nitrate Nitrogen				

#### **SOIL FERTILITY GUIDELINES**

#### Crop: 'Tifton' Bermudagrass pasture

Ciop. Inton a	Professional Control of	pasture		Yield	Goal: 5	tons/acre	Rec Units:	LB/ACRE
((66) <u>L</u> IA		N N	P <sub>2</sub> O <sub>8</sub>	K10	Mg	S B	Cu Mn	Zn Fe
1500	0.8	250	30	37	0			
Crop :	<u> </u>	· · · · · · · · · · · · · · · · · · ·				_ <del></del>	Rec Units:	
Comments								

#### 'Tifton' Bermudagrass pasture

Limestone application is targeted to bring soil pH to 6.5.

- To establish coastal or hybrid bermuda apply the phosphorus and potassium and 30 to 50 lbs N/acre before sprigging.
- · After sprigs start to grow, topdress with 40-60 lbs N/Acre. Topdress with an additional 30-40 lbs N/Acre in August or early September if needed.
- · For grass hay apply 50 lbs. N/Acre for each ton of expected yield. The normal range is 200-500 lbs. N/Acre. Apply 75-100 lbs. N/Acre when spring growth begins and 75-100 lbs. N/Acre after each harvest.
- On light soils with high grass hay yields, soil test annually to maintain soil pH and nutrient level.
- For soils low in sulfur, apply 20-40 lbs of sulfur as a sulfate in the spring with the nitrogen.
- · For grass hay or pasture needing high rates split the P and K application. Apply 1/2 in the spring and 1/2 in late summer.

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JUN 27 2014



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2790 Whitten Rd. Memphis, TN 38133 (901) 213-2400 Fax (901) 213-2440

**SOIL ANALYSIS** Client: Grower: Report No: 11-228-0569 Dowdy Pork, LLC Cust No: 10982 DOUG DOWDY Date Printed: 08/17/2011 4855 OLD JACKSON RD. Date Received: 08/16/2011 SOMMERVILLE TN 38068 PO: Page: 10 of 11

Lab Number: 44651

Field Id:

Sample Id: E-11

property <b>Test</b> of the	Method	Results	SOIL TEST RATINGS	Calculated Cation
Soil pH	1:1	5.3	(Medium)	Exchange Capacity
Buffer pH	ВРН	7.69		7.5
Phosphorus (P)	M3	132 LB/ACRE		meq/100g
Potassium (K)	МЗ	156 LB/ACRE		Calculated Cation
Calcium (Ca)	Мз	1434 LB/ACRE		Saturation
Magnesium (Mg)	M3	304 LB/ACRE	and the second s	%K 2.7
Sulfur (S)				%Ca 47.8
Вогол (В)				%Mg 16.9
Copper (Cu)				%H 33.1
Iron (Fe)				Hmeq 2,5
Manganese (Mn)	_			
Zinc (Zn)		· ····		
Sodium (Na)				K : Mg Ratio
Solubie Salts				0.16
Organic Matter	LOI	2.2 % ENR 88		1300
Nitrate Nitrogen		=== ** ==***		

#### SOIL FERTILITY GUIDELINES

Crop:	'Tifton'	Bermudagrass	naeturo
OIOD.	HILLOH	Deiminoanrass	DARTITA

ANTONE STATES	permudagrass p	DESCRIPTION AND ADMINISTRATION OF	11-0-1	Yield	Goal : 5	tons/acre	Rec Units:	LB/ACRE
(68) LIN 3000	1.5	N 250	P <sub>2</sub> O <sub>8</sub>	<b>K₃⊚</b> 105	Mg	S B	Cu Mn	Zn Fe
Crop:	<u>-</u>			100		<u></u>	Pag Unite	
Comments					······ <u>·</u>		Rec Units:	

#### 'Tifton' Bermudagrass pasture

Limestone application is targeted to bring soil pH to 6.5.

- To establish coastal or hybrid bermuda apply the phosphorus and potassium and 30 to 50 lbs N/acre before sprigging.
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SOIL ANALYSIS Client: Grower: Report No: 11-228-0569 Dowdy Pork, LLC Cust No: 10982 DOUG DOWDY Date Printed: 08/17/2011 4855 OLD JACKSON RD. Date Received: 08/16/2011 SOMMERVILLE TN 38068 PO: Page: 11 of 11

Lab Number: 44652

Field Id:

Sample Id: H-1

Test	Method	Results	SOIL TEST RATINGS	Calculated Cation
Soil pH	1:1	5.3	2va 🚵 — Medium V	Exchange Capacity
Buffer pH	ВРН	7.70		10,5
Phosphorus (P)	М3	64 LB/ACRE		meq/100g
Potassium (K)	М3	146 LB/ACRE		Galculated Cation
Calcium (Ca)	M3	2546 LB/ACRE		Saturation
Magnesium (Mg)	мз	382 LB/ACRE		%K 1.8
Sulfur (S)				%Ca 60.6
Boron (B)		· · · · · · · · · · · · · · · · · · ·		%Mg 15.2
Copper (Cu)		·		%H 22,9
iron (Fe)				Hrneq 2.4
Manganese (Mn)		<del></del>		
Zinc (Zn)				
Sodium (Na)				K: Mg Ratio
Soluble Salts				0.12
Organic Matter	LOI	2.7 % ENR 98		
Nitrate Nitrogen				
		<del></del>		}

#### SOIL FERTILITY GUIDELINES

Crop : 'Tiffon'	Rermudagrace	pacture

arman of their land, delice to me have a conse	asture		Yield	Goal:5	tons/acre	Rec Units:	LB/ACRE
VE (tons)	N	P, O,	K₃0	Mg	8	B Cu Mn	Zn Fe
1.5	250	56	116	0			
			- <u>-</u>		<del></del>	Rec Units:	<u> </u>
	VE (tons)		VE (tons) N P <sub>3</sub> O <sub>5</sub>	VE (tons) N P <sub>3</sub> (O <sub>ξ</sub> K₃0	VE (tons) N P <sub>3</sub> O <sub>5</sub> K-3O Mg	ME (fons): N P₃O₅ K₃O Mg: S	VE         (tone)         N         PaOs         KaO         Mg         S         B         Cu         Mh           1.5         250         56         116         0

#### Comments:

#### 'Tifton' Bermudagrass pasture

Limestone application is targeted to bring soil pH to 6.5.

- To establish coastal or hybrid bermuda apply the phosphorus and potassium and 30 to 50 lbs N/acre before sprigging.
- · After sprigs start to grow, topdress with 40-60 lbs N/Acre. Topdress with an additional 30-40 lbs N/Acre in August or early September if needed.
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- For grass hay or pasture needing high rates split the P and K application. Apply 1/2 in the spring and 1/2 in late summer.

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#### Lab **UNITED SOIL SERVICES**

108 South Crystal Lane PO Box 226 Fairbury, Il. 61739 815-692-2626



Agent **Mark Roberson** 731-697-4031

**TurnKey Soil Services** 127 W. Market St. Somerville, Tn. 38068

Samples pulled on: 11/6/2013

Samples pulled by : M. Roberson

Samples submitted: 11/12/2013

**Dowdy Pork LLC** Grower:

Farm ID: **Home Farm** 

Fields H2 Lab#

9266 Date: 11/16/2013

Acres: 4.18

	82.22.32.32.32.3		S TO STORY THE PARTY OF THE PAR	A prosperior and the second	Cre	ops & Reco	ommendai	tions	
	Method	Results	Rating	Comm	on (31)	Hybri	d (an		
soil PH %	1:1	5.1	1.4	Maintain	build (4)	Maintain	build (4)	Maintain	h.:34 /
Buffer PH %	bPH	6.8	M3	N - 240u	*	N - 300u	*		build (4
Phos (P)	M3	250	VH	P-0	*	P-0	*	N	*
Potash (K)	M3	252	M	K - 75u	*	K - 86u	*	P	*
Calcium (Ca)	M3	987	VL	*	*	# - <b>o</b> ou #	*	K	*
Magnesium (Mg)	МЗ	105	L	*	嚟	*	*	*	**
Sulpher (S)	M3	*	*	*	*	*	**	*	ije .t.
Zinc (Zn)	IVI3	*	*	*	*	*	*	*	<b>7</b> *
iron (Fe)	M3	*	*	*	≉	sh.	*	*	*
Manganese (Mn)	M3	*	*	*	*	*	*	-	*
Copper (Cu)	M3	轍	塘	<b>15</b> 1	10	*		*	*
Boron (B)	M3	*	*	*	*	*	*	*	*
Organic Matter (OM)	WB	2.0	*	*	<b>#</b>	*	*	*	*

Cation Exchange Capacity - CEC	5.2		Little Recommendations (in tons / ac)  Apply 7,000lbs of lime - a split application is preferred. Apply 7,000lbs of lime - a split application is preferred.
Potassium - % K	6.2	ąc	2 tons in late fall or winter - apply 3,000 ibs in summer
Calcium - % Ca	47.4	JT.	11.7 ->
Magnesium - % Mg	8.4	*	
Hydrogen - % H	38.0	*	

### Comments / suggestions

- Split applications of N for maximum results. Apply 60 units before ist cutting and after each cutting as the bermuda begins 2" of greening. Recommendation based on 3 cuttings commom & 4 cuttings hybrid
- to avoid controlling weeds with chemical and hasten bermuda greening, burn off fields of bermuda around March 1st or after dander of freeze is past. May increase yield by as much as 1/2 ton

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# Bernwala

N Efficiency Coefficient

Non-incorporation: 50% or .5

P Efficiency Coefficient

Phosphorus coefficient: 100% or 1

gal = gallons ac = acre

Acronyms:

N = nitrogen in = inch

P (P<sub>2</sub>O<sub>5</sub>) = phosphorus

Incorporated within 12 hours: 80% or .8 Incorporated at application: 100% or 1

All liquid manure analysis results are in Lbs/1,000 gal of nutrient tested.

There is 27,154 gal/ac. inch of liquid.

1" = 27,154 gal/ac. in

3/4" = 20,365.5 gal 1/2" = 13,577 gal

Therefore:

1/4" = 6,788.5 gai

i Manure Analysis Results

6.8 N lbs/1,000 gal

11 P.Os. lbs/1,000 gal

2 Nitrogen and Phosphrus Needs for Your Grop

a. Plant removal rates for your crop (See MIMP Crop Information for Tennessee):

List the Nitrogen and Phosphorus Coeffiency Based on Your Application Method:

460 N 16s/ac.

(20 P.O. lbs/ac.

c. Multiply N content in manure analysis (step 1) by (Nitrogen Efficiency Coefficient (step 2b.): 6.8 | lbs/gal X 0.5 | gal/ac. in = 3.4

d. Calculate your Application rates:

1- N Rate = Plant Removal Rate (Step 2a.) divided by Nitrogen Content in Manure Analysis (Step 2c.)

460 divided by 3.4 x 1000 = (3527)(gal/ac. for N rate

2.  $P_2O_5$  Rate = Plant Removal Rate for  $P_2O_5$  (Step 2a.) divided by  $P_2O_5$  Content in Manure Anlaysis (Step 2c.)

120 divided by 1.17 x 1000 = 10256/gal/ac. for P.O. rate

time, decrease the overall phosphorus content in your soil. Aplying more waste than specified in your Nutrient Management Plan will be a violation of your CAFO permit. If you are wanting to decrease the phosphorus content in your soils, decreasing the amount and frequency of application in conjunction with proper crop rotations will, in Remember that if your soils are "high" or "very high" in Phosphorus, you must run the TN Phosphorus Index. This will assist you in determining your rate of application

A Efficiency Coefficient

Non-incorporation: 59% or 5

facorporated within 12 hours: 80% or .8

Phosphorus coefficient 100% or 1 P Efficiency Coefficient

Acronyms:

N = nutrogen m - ach

gal - gallons

P (P,O<sub>1</sub>) = phosphorus

All liquid manure analysis results are in Lbs/1.1800 gai of autnent techra. incorporated at application: 100% or 1

There is 27,154 gal/ac. mch of liquid.

1" = 27,154 gal/ac.m 1/4" = 6,788.5 gal

Therefore 1/27 - 13.577 gat

3/4" - 20,365.5 gal

6.2 M 15s/1,000 gail

[1] P.O. Ibs/1,000 gal

2 Witrogen and Phosphius Needs for Your Crop

E Manure Analysis Results

Plant removal rates for your crop (See MMP Crop Information for Tennessee).

b. List the Nitrogen and Pluspheirs (coefficies Based on You Application Method:  $\frac{1}{\sqrt{2}}$  . In

िMuthuty N content in majure analysis (sign 1) by (Nutrogen Efficiency Coefficient (skip 2b ): देखि अध्यक्षित 015 gal/ac m

d. Calculate your Application rates:

10 divided by 3.4 x 1000 = 26.171 gal/a. for heave 1. 10 Rate - Marit Removal Rate (Seep 2a.) divided by Mirregon Content in Manne Analysis (step 2c.)

2 P.O., Rate in Start Removal Rate for P.O. (step 2a.) divided by P.O. Cordent in Manura Ardaysis (Step 2d.)

35 divided by L. [ X 1000 = 22 3 (5) gal/nr. for P.O. rate

You are wanting to decrease the phosphous content in your soils, decreasing the amount and frequency of application in conjunction with proper crap rotations will, in the constant of phospharis content of your soil. Applied marke than specified in your listinent Management Plan will be a violation of your CAFO persist demember that if your souls are "high" or "very high" in Phosphorus, you arust run the TN Phosphorus Index. This will assist you in determining your rate of application

JUN 27 2014

P Efficiency Coefficient Remain angulation selectors N Efficient Coefficient

Phosphonecodicent (100% or 1

N shake ...

Acronyms:

incorporated within 17 hours, 30% or 3 by outported of application. United to

All liquid methor, denderal results are in 1887. Of the carry more feet feeter.

Short Cold Tall garden on her diagons

1.4 . 1.98 S. Ball

11.13.00 G.R.F

MP in the factority and

i Paanure Analysis Kesaffe

Mithogen and Phospheus Models for Yours oup

88 F C. Bryze

Place consorting of the year map (so MMP) reach televiration for Composers)

150 N Ibs/en

List the Nitrogen and Physphorus Coefficiery Plased on Your Application Method.

c. Modityk Niromen in manner andysk patep D by (Nirogen i Mineryx befinnen sam 26,5 galse m

3,7

तः । जोटाकिस्ट ५००म त्रिमुतीत्त्रीकात हत्त्रीकः

i - Periodice - Porent Reambould Kolte. Poteje va i distribited dy Rathoglem content or Manuer Amalysis, fourp 2013

150 shorder by 3,4 x 1000 44,118 parties the testing

eror 8, de l'était Nonovaiteate foir Prochap 3a ) divided av front ent in Manure Adayas (Stop. 2c.).

8.8 demonstra 1,17 x tone 75214 parameter to each

or the second of the property of the property of the second for the second of a property of the second of the seco nds, decense the weard phosphare, cereal in gons sol. Apisas more waste than sier feel in vair National Abreament Time wife is a solidation of solida a solidation of solidation is remotity. Bod dynacydrane bigiti a fons had, ar Phyddiaus, von nast hir fle i N Pinsphone bidos. The sed ossis you in betreoming an interperation

Non-incorporation: 50% or .5 N Efficiency Coefficient

P Efficiency Coefficient

Phosphorus coefficient: 100% or 1

Acronyms:

ac = acre

ın = mch gal = gailons

N = nitrogen

P (P,O<sub>s</sub>) = phosphorus

Incorporated within 12 hours; 80% or .8

Alf liquid manure analysis results are in Lbs/1,000 gal of nutrient tested. Incorporated at application: 100% or 1

1 Manure Analysis Results

iherefore 3/4" = 20,365 5 gaf There is 27,154 gal/ac unch of Inquid.

1" = 27,154 gal/ac. in 1/4" = 5,788.5 gal (C.S. N lbs/1,000 gal

1. 7 P.O. Ibs/1,000 gal

2 Nitrogen and Phosphrus Needs for Your Crop

a. Plant removal rates for your crop (See MMP Crop Information for Fennessee):

List the Nitrogen and Phosphorus Coeffiency Based on Your Application Method:

15 P.O. 165/ac.

c. Multiply N content in manure analysis (step 1) by (Nitrogen Efficiency Coefficient (step 2b.):  $6.8 \text{ lbs/kat} \times 0.5 \text{ gal/ac.in} = 3.4$ 

d. Calculate your Application rates;

1- N Rate : Plant Removal Rate (Step 2a.) divided by Mirrogen Content in Manure Analysis (Step 2c.)

divided by 3,4 x 1000 = 34,412 gal/ac. for N rate

2. P.O. Rate a Plant Removal Rate for P.O. (step 2a.) divided by P.O. Content in Manure Anlaysis (Step 2c.)

45 divided by 1.17 x 1000 - 38 4/22 gal/at. for P.O. 13te

If you are wanting to decrease the phosphorus content in your soils, decreasing the amount and frequency of application in conjunction with proper crop rotations will, in time, decrease the overall phosphorus content m your soil. Aplying more waste than specified in your Nutrient Management Plan will be a violation of your CAFD permit. Remember that if your soils are "high" or "very high" in Phosphorus, you must run the TN Phosphorus Index. This will assist you in determining your rate of application

Non-incorporation: 50% or .5 N Efficiency Coefficient

P Efficiency Coefficient

Phosphorus coefficient: 100% or 1

gal = gallons at = acre

Acronyms:

N = nitrogen in = inch

P (P,O,) =  $\rho$ hosphorus

incorporated within 12 hours: 80% or .8 incorporated at application; 100% or 1

All liquid manure analysis results are in Lbs/1,000 gal of nutrient tested.

There is 27,154 gal/ac. inch of liquid. i" = 27,154 gal/ac. in 1/4" = 6,788.5 gal

1/2" = 13,577 gal

3/4" = 20,365.5 gal

6-8 N lbs/1,000 gai

LIZ P.Os lbs/1,000 gal

2 Nitrogen and Phosphrus Needs for Your Crop

1 Manure Analysis Results

a. Plant removal rates for your crop (See MMP Crop Information for Tennessee);

240 N lbs/ac.

48 P.O. Ibs/ac.

b. List the Nitrogen and Phosphorus Coeffiency Based on Your Application Method: 0.5 N

c. Multiply N content in manure analysis (step 1) by (Nitrogen Efficiency Coefficient (step 2b.):

d. Calculate your Application rates.

1- N Rate = Plant Removal Rate (Step 2a.) divided by Nitrogen Content in Manure Analysis (Step 2c.)

240 divided by 3.4 x 1000 = 70,586 gal/ac. for N rate

2. P.O.; Rate = Plant Removal Rate for P.O. (slep 2a.) divided by P.O. Content in Manure Aulaysis (Step 2c.)

4 divided by 1.17 x 1000 = 41,026 gal/ac. for P.O. rate

If you are wanting to decrease the phosphorus content in your soils, decreasing the amount and frequency of upplication in conjunction with proper crop rotations will, in time, decrease the overall phosphorus content in your soil. Aplying more waste than specified in your Nutrient Management Plan will be a violation of your CAFO permit. Pemember that if your sails are "high" or "very high" in Phosphorus, you must run the TN Phosphorus Index. This will assist you in determining your rate of application

JUN 27 2014

	Date			Size	Rate		Application	ation	Nutrie (N	Nutrients Applied (Manure)		Nutrients Applied (Commercial)	utrients Applie (Commercial)	jed O	Plan	Plant Uptake		Bal	Balance After Removal	ē
	-				Based on	Soil		Rate/						1			ı			
	Mo/Yr	Yield Goal	Field Name/ Number	Acres	N or P (1 Yr P, 2Yr P, etc.)	Results L, M, H, VH	Crop	Acre (th gals per acre)	z Ą	P205	E 620 □	N N N N N N N N N N N N N N N N N N N	P205 K	K20 F	Rem. Rate N	Rem. Rate P205	Rem. Rate K20	N By	P205 lb/A	K20 lb/A
	2013		丑									Ž	trients	Avail	able via	Nutrients Available via Soil Sample:	mple:	0	57	150
	4-10/14	nq09/nq06	ᅲ	18	1 YR P	Σ	Wh, SB	80	272	93	245	102	0	0	357	93	116	17	54	279
	4-10/15	200bu	긒	18	1 YR P	Σ	Corn	75	255	88	230	34	0	0	150	88	28	156	24	451
	4-10/16	2.5 Bales	亞	18	1 YR P	Σ	Cotton	30	102	35	92	0	0	0	06	35	48	168	54	495
	4-10/17	nq09/nq06	끕	18	1 YR P	Σ	Wh, SB	80	272	8	245	0	0	0	357	93	116	185	54	624
	4-10/18	200bu	ᄪ	18	1 YR P	Σ	Com	75	255	88	230	34	0	0	150	88	28	324	54	96/
	2013		E-2									Z	trients	: Avail	able via	Nutrients Available via Soil Sample:	mble:	0	25	244
	4-10/14	10tn	E-2	10	1 YR P	ェ	B. Hay	100	340	117	306	102		120	460	120	200	4	61	170
	4-10/15	10tn	E-2	10	1 YR P	I	B. Hay	100	340	117	306	102	0	120	460	120	200	98-	28	96
	4-10/16	10tn	E-2	10	1 YR P	I	B. Hay	100	340	117	306	102	0	120	460	120	200	-54	22	22
	4-10/17	10tn	E-2	10	1 YR P	I	B. Hay	100	340	117	306	102		120	460	120	500	-72	52	-52
	4-10/18	10tn	E-2	10	1 YR P	I	В. Нау	100	340	117	306	102	0	120	460	120	200	06 <u>-</u>	49	-126
	2013	<b>~</b>	Е-3									ž	trient	s Avail	able vie	Nutrients Available via Soil Sample:	mple:	0	36	190
	4-10/14	90bu/60bu	E-3	7	1 YR P	Σ	Wh, SB	80	272	83	245	102	0	0	357	93	116	17	36	319
	4-10/15	200bu	F-3	7	1 YR P	⋝	Corn	75	255	88	230	34	0	0	150	88	28	156	98	491
	4-10/16	2.5 Bales	F-3	7	1 YR P	Σ	Cotton	30	102	35	92	0	0	0	06	35	48	168	36	535
	4-10/17	nq09/nq06	F-3	7	1 YR P	Σ	Wh, SB	80	272	83	245	0	0	0	357	83	116	185	36	664
	4-10/18	200bu	E-3	7	1 YR P	Σ	Corn	75	255	88	230	34	0	0	150	88	28	324	36	836
•	2013	**	F-4									Ž	trients	s Avail	able via	Nutrients Available via Soil Sample:	mple:	0	64	188
R	4-10/14	10tn	E-4	15	1 YR P	I	B. Hay	100	340	117	306	102	0	120	460	120	200	<del>-</del> 18	61	114
E	4-10/15	10tn	E-4	15	1 YR P	I	B. Hay	100	340	117	306	102	0	120	460	120	200	-36	28	40
$\mathbb{C}^{1}$	3 4-10/16	10tn	E-4	15	1 YR P	Í	B. Hay	100	340	117	306	102	0	120	460	120	200	<b>4</b> 5	55	-34
EJ	4-10/17	10tn	E-4	15	1 YR P	エ	В. Нау	100	340	117	306	102		120	460	120	200	-72	25	-108
V	4-10/18	10tn	E-4	15	1 YR P	I	B. Hay	100	340	117	306	102	0	120	460	120	200	06 <u>-</u>	49	-182
E	··•																			
)			4/1/1	Oaf	dios as	200	A A Acres	fb Doun	7	B Hav	Born	Social	G SSE	200	Semol/s					

B. Hay - Bermudagrass Rem. - Removal H - High K - Potassium A - Acre Ib - Pound N - Nitrogen P- Phosphorus SB - Soybean L - Low M - Medium Mo - Month

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Date			Size	Rate		Applic	Application	Nutrie	Nutrients Applied (Manure)	Į.	Nutrier (Con	Nutrients Applied (Commercial)	slied al)	Plar	Plant Uptake	<b>O</b>	æ	Balance After Removal	fter
				Based on	Zest Soil		Rate/								•	,			•
		Field		N or P (1	Results		Acre (th						•		1	1			
Mo/Yr	Yield Goal	Name/ Number	Acres	Yr P, 2Yr P, efc.)	٦, ٦ چ, ≩	Š	gals per		P205	K20				<u>-</u> 0	Kem. Rate	Rem. Rate	/qI N	P205	K20
2013	က			6	i,	<u>2</u>	acre)	D/A	A/a	P/A	- V9	= V/q	P/A	z	P205	<b>6</b> 20	∢	P/A	Ib/A
4-10/14	10tn	I Ц	٥	200		:					ź	ıtrient	s Avai	Nutrients Available vía Soil Sample:	Soil S	ample:	0	250	312
1 307		)   	0	7 7 7 7	¥	В. Нау	8	340	117	306	102	0	120	460	120	500	ζ,	277	000
4-10/15	10tn	E-5	œ	1 YR P	¥	B. Hay	90	340	117	306	103	c	120	780	2 5	3 6	2 6	747	652
4-10/16	10tn	Ę,	<b>∞</b>	1 YR P	Η	B. Hay	20	170	50	153	127		2 5	9 6	2 0	200	မှ မ	244	164
4-10/17	10tn	E-5	80	1 YR P	H.	B. Hav	2 2	340	117	3 6	2 5		2 2	400	0 !	000	-126	186	ලි
4-10/18	10tn	E-5	∞	1 YR P		B. Hay	9 2	340	117	306	20 20	· •	120	460 460	120	500 500	-174	<del>2</del> <del>2</del> <del>2</del> <del>2</del> <del>2</del> <del>2</del> <del>2</del> <del>2</del> <del>2</del> <del>2</del>	-137
2013		U U															7	3	7
4-10/14	10+0	ם ב	(	(		;					Ž	trient	> Avail	Nutrients Available via Soil Sample:	Soil Sa	ımple:	0	250	252
4-10/15	- 6 <u>-</u>	ا نا	ه د			В. Нау	100	340	117	306	102	0	120	460	120	500	<u>89</u>	247	178
4-10/16	10III	р (	، ت			В. Нау	100	340	117	306	102	0	120	460	120	500	36	244	104
10/10	10m	ب د د	9 (			В. Нау	20	170	29	153	170	0	120	460	120		-156	186	123
4-10/1/	10E	ы Б				В. Нау	100	340	117	306	102	0	120	460	120		-174	183	-197
91/01-4		ц О	တ	1 YR P	_ ¥	В. Нау	100	340	117	306	102	0	120	460	120		-192	180	-271
2013	~~	E-7									:								
4-10/14	90hi/60hi		9		•		,				2	trients	Avail	Nutrients Available via Soil Sample:	Soil Sa	mple:	0	48	168
4-10/15						Wh, SB	8	272	8		102	0	0	357	93	116	17	48	297
4-10/16	2 5 Balos					Som Com	75	255	88	230	34	0	0	150	88	58	156	48	469
4-10/17	:					Cotton	8	102	35	85	0	0	0	90	35	48	168	48	513
4-10/18			) D (			Wh, SB	8	272	83	245	0	0	0	357	63	116	185	48	642
) )	7000			1 1 2	∑	E CO	75	255	88	230	34	0	0	150	88	28	324	48	814
2013		E-8									2		,		:				
4-10/14	10tn	E-8		1 YRP	<u> </u>	R Hay	901	070	1					run ients Available via soil sample:	Soll Sal	mple:	0	80	382
4-10/15	10tn		7	YRP				9 6			Z 5		120	460	120	200	<u>~</u>	92	308
4-10/16	10tn							040			ZDL		120	460	120	200	-36	92	234
71/01-				ב א ר כ		ъ. нау		340			102		120	460	120	500	-54	89	160
E)				ב ב ב		ь. нау		340		306 1	102	0	120	460	120	500	-72	98	86
į ĮV			_	۲ ۲ ۲		В. Нау	001	340	117	306 1	102	0	120	460	120	200	-90	83	2 2
E																			
Acronyms		W/h - W/host		04.00		, , , , , , , , , , , , , , , , , , ,													
1000	J	0111		ob - soybean		A - Acre Ib - Pound	o - Pound	B.	B. Hay - Bermudagrass	Bermu	dagras		m R	Rem Removal					

N - Nitrogen P- Phosphorus

L - Low M - Medium

Date			Size	Rate		Application	ation	Nutrie (R	Nutrients Applied (Manure)		tutrier (Con	Nutrients Applied (Commercial)	olied at)	Plar	Plant Uptake	٨	Ba	Balance After Removal	Her -
J. C. T.	Vold Goal	Field Name/	Acres	Based on N or P (1 Yr P, 2Yr P etc.)	Soil Test Results L, M,	S. S. S. S. S. S. S. S. S. S. S. S. S. S	Rate/ Acre (th gals per	z <u>4</u>	P205	K20	z <u>č</u>	P205	K20 15/A	Rem. Rate N	Rem. Rate P205	Rem. Rate K20	N Ib/	P205 Ib/A	K20 Ib/A
2013		E-9			: :	<u>.</u>		Ì			Ž	utrien	ts Ava	Nutrients Available via Soil Sample:	a Soil Sa	mple:	0	250	408
4-10/14	10tn	E-9	7	1 YR P	¥	B. Hay	100	340	117	306	102	0	120	460	120	500	-18	247	334
4-10/15	10tn	E-9	7	1 YR P	H	B. Hay	100	340	117	306	102	0	120	460	120	200	-36	244	260
4-10/16	10tn	E-9	7	1 YR P	¥	B. Hay	50	170	29	153	170	0	120	460	120	500	-156	186	13
4-10/17	10tn	6- <u>H</u>	7	1 YR P	¥	B. Hay	100	340	117	306	102	0	120	460	120	200	-174	183	φ-
4-10/18	10tn	Е <del>-</del> 3	7	1 YR P	Η	B. Hay	100	340	117	306	102	0	120	460	120	200	-192	180	-135
2013	ന	E-10/11									Ž	utrien	ts Ava	Nutrients Available via Soil Sample:	a Soil S	ample:	0	152	338
4-10/14	10tn	E-10/11	on on	1 YR P	¥	B. Hay	100	340	117	306	102	0	120	460	120	200	-18	149	264
4-10/15	10tn	E-10/11	6	1 YR P	¥	B. Hay	100	340	117	306	102	0	120	460	120	200	-36	146	190
4-10/16	10tn	E-10/11	6	1 YR P	ΥH	B. Hay	50	170	59	153	102	0	120	460	120	200	-156	82	-37
4-10/17	10tn	E-10/11	0	1 YR P	¥	B. Hay	100	340	117	306	102	0	120	460	120	200	-174	82	-
4-10/18	10tn	E-10/11	ිග	1 YR P	¥	В. Нау	100	340	117	306	102	0	120	460	120	200	-192	79	-185
2013	ď	Ξ.									Z	utrien	ts Ava	Nutrients Available via Soil Sample:	a Soil S	ample:	0	64	146
4-10/14	10 <del>t</del> n	_ <del>_</del>	10	1 YR P	I	B. Hav	100	340	117	306	102	0	120	460	120	200	<u>+</u>	61	72
4-10/15	10tn	<u> </u>	5 5	1 YR P	I	B. Hay	100	340	117	306	102	0	120	460	120	500	-36	28	ςį
4-10/16	10tn	Ŧ	10	1 YR P	I	B. Hay	100	340	117	306	102	0	120	460	120	200	-54	55	-76
4-10/17	10tn	포	10	1 YR P	r	B. Hay	100	340	117	306	102	0	120	460	120	200	-72	52	-150
4-10/18	10tn	H-1	우	1 YR P	I	B. Hay	100	340	117	306	102	0	120	460	120	200	90	49	-224
2013	œ	ij									Z	utrien	ts Ava	Nutrients Available via Soil Sample:	a Soil S	ample:	0	250	252
R-10/14	nq09/nq06		Ŋ	1 YR P	Η	Wh, SB	80	272	93	245	102	0	0	357	8	116	15	250	381
E.4-10/15			5	1 YR P	¥	Corn	75	255	88	230	102	0	0	150	88	58	55	250	553
1-10/16	2.5 Bales	H-2	5	1 YR P	Ϋ́	Cotton	30	102	35	92	34	0	0	06	35	48	79	250	297
10/17	nq09/nq06	H-2	5	1 YR P	¥	Wh, SB	80	272	93	245	102	0	0	357	93	116	94	250	726
ÅED	200bu	H-2	വ	1 YR P	¥	Corn	75	255	88	230	102	0	0	150	88	28	134	250	868
Acronyms	<u>17S</u>	Wh - Wheat	neat ,	SB - Soybean	ean	A - Acre lb -	lb - Pound		B. Hay - Bermudagrass	- Berr	nudag	(	Rem.	Rem Removal	<i> E</i>				
Mo - Month Yr - Year	nth		L - Low M - Medium	ı Airım		N - Nitrogen P- Phosphor	- Nitrogen Phosphorus		H - Hign VH - Very High	in erv Hic		< - Fo h gal -	K - Fotassium th gal - Thous	k - Fotassium th gal - Thousand Gallon	lon				
												)							

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Transport	2.5	Phosphorus	Loss Rating		Before	After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Hydrologic Soil Group (Table 1)	Α	В	0	D	4	
Erosion Potential (Table 2)	7	Low	Medium	High	2	
Permanent Vegetative Buffer Width *(ft)	>29	20-29	10-29	< 10		
Non-Application Width from Surface Water source (ft)	>29	20-29	10-29	< 10		

Part A: Total Site Value:

\* Permanent Vegetative Buffer must be installed, constructed, and maintained in accordance with applicable NRCS

Conservation Practice Standard.

Source		Phosphorus	Loss Rating		Before	After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Soil Test P Value	Low	Medium	High	Very High	2	
P Application Rate (lbs/ac/crop or crop sequence/rotation)	0.10 x <u>128</u>	_ lbs $P_2O_5$ applied as _ lbs $P_2O_5$ applied as _ lbs $P_2O_5$ applied as	s manure, litter, c	r biosolids	12	
Application Timing	June – Sept.	April, May, Oct., March or Nov. w/ winter cover	March or Nov. w/o winter cover, Feb. w/ winter cover	Dec., Jan., Feb.	J	
Application Method	Injected/Banded 2" below the surface	Incorporated within 5 days of application	Incorporated more than 5 days after application	Surface applied (no incorporation)	4	

Before Value -	Multiply Part A ( $8$	_) x Part B ( <u>20</u>	)= <u>/60</u>	P Loss Rating
After Value -	Multiply Part A (	_) x Part B (	_) =	P Loss Rating

<sup>\*</sup> The index numbers and the interpretations, as well as the whole document will continue to be reviewed and evaluated, and are subject to modification as further field testing and validation of the index continues.

Teal Edinas Tand Pladest	Celinali a lli denne allon of Pindex Politic (lor lip Sie.
< 100	LOW potential for P movement from the field. If farming practices are maintained at the current level there is a low probability of an adverse impact to surface waters from P losses. Nitrogen-based nutrient management planning is satisfactory for this site. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.
100 - 200	<b>MEDIUM</b> potential for P movement from the field. The chance for adverse impact to surface waters exist. Nitrogen-based nutrient management planning are satisfactory for this field when conservation measures are implemented to lessen the probability of P loss. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.
201 - 300	HIGH potential for P movement from the field. The chance for adverse impact to surface waters is likely unles remedial action is taken. Soil and water conservation practices are necessary (if practical) to reduce the risk of P movement and water quality degradation. If risk cannot be reduced, then a P-based nutrient management plan will be implemented.
> 301	VERY HIGH potential for P movement from the field and an adverse impact on surface waters. All necessary soil and water conservation practices, plus a P-based nutrient management plan must be put in place to avoid the potential for water quality degradation.

#### Part A: Phosphorus Loss Potential Due to Transport Characteristics

Hydrologic Soil Groups are categorized based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. Refer to Table 2-1 in Chapter 2 of the NRCS Engineering Field Manual. For a summary of the hydrologic groupings for most Tennessee soils see Table 1 (next page).

1.

The four hydrologic groups are:

**Group A:** Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These soils have a high rate of water transmission.

**Group B:** Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

**Group C:** Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

**Group D:** Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

**Tennessee Phosphorus Index\*** 

Transport		Phosphorus	Loss Rating		Before	After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Hydrologic Soil Group (Table 1)	Α	В	(i)	D	4	
Erosion Potential (Table 2)	-	Low	Medium	High	a	
Permanent Vegetative Buffer Width *(ft)	>29	20-29	10-29	< 10		
Non-Application Width from Surface Water source (ft)	>29	20-29	10-29	< 10		

\* Permanent Vegetative Buffer must be installed, constructed, and maintained in accordance with applicable NRCS Conservation Practice Standard.

Source		Phosphorus	Loss Rating		Before	After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Soil Test P Value	Low	Medium	High	Very High	4	
P Application Rate	0.20 x	lbs P <sub>2</sub> O <sub>5</sub> applied a	s commercial ferti	ilizer		:
(lbs/ac/crop or crop sequence/rotation)	0.10 x <b>/20</b>	lbs P <sub>2</sub> O <sub>5</sub> applied as	s manure, litter, o	r biosolids		: :
	0.05 x	lbs P <sub>2</sub> O <sub>5</sub> applied a	s alum amended	poultry litter	12	
Application Timing	June – Sept.	April, May, Oct.,	March or Nov.	Dec., Jan., Feb.		
	and a financial	March or Nov. w/ winter cover	w/o winter cover, Feb. w/ winter cover		2	
Application Method	Injected/Banded	Incorporated within 5	Incorporated	Surface applied		
	2" below the surface	days of application	more than 5 days after application	(no incorporation)	8	
	74	1	Arronnovom annovation and a second annovation and a se			

Before Value -	Multiply Part A (	) x Part B ( <u>26</u> ) = <u>2</u>	0 <b>8</b> P Loss Rating
After Value -	Multiply Part A (	) x Part B () =	P Loss Rating

<sup>\*</sup> The index numbers and the interpretations, as well as the whole document will continue to be reviewed and evaluated, and are subject to modification as further field testing and validation of the index continues.

Tetell20165 AromPlades	Callinative in a protestion of the last Patricitor, the Stock
< 100	LOW potential for P movement from the field. If farming practices are maintained at the current level there is a low probability of an adverse impact to surface waters from P losses. Nitrogen-based nutrient management planning is satisfactory for this site. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.
100 - 200	<b>MEDIUM</b> potential for P movement from the field. The chance for adverse impact to surface waters exist. Nitrogen-based nutrient management planning are satisfactory for this field when conservation measures are implemented to lessen the probability of P loss. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.
201 - 300	HIGH potential for P movement from the field. The chance for adverse impact to surface waters is likely unles remedial action is taken. Soil and water conservation practices are necessary (if practical) to reduce the risk of P movement and water quality degradation. If risk cannot be reduced, then a P-based nutrient management plan will be implemented.
> 301	VERY HIGH potential for P movement from the field and an adverse impact on surface waters. All necessary soil and water conservation practices, plus a P-based nutrient management plan must be put in place to avoid the potential for water quality degradation.

#### Part A: Phosphorus Loss Potential Due to Transport Characteristics

Hydrologic Soil Groups are categorized based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. Refer to Table 2-1 in Chapter 2 of the NRCS Engineering Field Manual. For a summary of the hydrologic groupings for most Tennessee soils see Table 1 (next page).

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The four hydrologic groups are:

**Group A:** Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These soils have a high rate of water transmission.

**Group B:** Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

**Group C:** Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

**Group D:** Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Transport		Phosphorus	Loss Rating		Before	After
-	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Hydrologic Soil Group (Table 1)	A.	В	(C)	D		
Erosion Potential (Table 2)	-	Low	Medium	High		
Permanent Vegetative Buffer Width *(ft)	>29	20-29	10-29	< 10		
Non-Application Width From Surface Water Source (ft)	>29	20-29	10-29	< 10		

Part A: Total Site Value:

\* Permanent Vegetative Buffer must be installed, constructed, and maintained in accordance with applicable NRCS Conservation Practice Standard.

Source	Phosphorus Loss Rating					After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Soil Test P Value	Low	Medium	High	Very High	a	
P Application Rate (lbs/ac/crop or crop sequence/rotation)	0.10 x <b>/20</b>	lbs $P_2O_5$ applied as lbs $P_2O_5$ applied as lbs $P_2O_5$ applied as	s manure, litter, o	or biosolids	12	
Application Timing	June Sept.	April, May, Oct., March or Nov. w/ winter cover	March or Nov. w/o winter cover, Feb. w/ winter cover	Dec., Jan., Feb.	a.	
Application Method	Injected/Banded 2" below the surface	Incorporated within 5 days of application	Incorporated more than 5 days after application	Surface applied (no incorporation)	4	

Before Value -	Multiply Part A ( $8$	_) x Part B ( <u>2</u> (	0)= <u>/6</u> 0	P Loss Rating
After Value -	Multiply Part A (	) x Part B (	) =	P Loss Rating

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< 100	<b>LOW</b> potential for P movement from the field. If farming practices are maintained at the current level there is a low probability of an adverse impact to surface waters from P losses. Nitrogen-based nutrient management planning is satisfactory for this site. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.
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201 - 300	HIGH potential for P movement from the field. The chance for adverse impact to surface waters is likely unles remedial action is taken. Soil and water conservation practices are necessary (if practical) to reduce the risk of P movement and water quality degradation. If risk cannot be reduced, then a P-based nutrient management plan will be implemented.
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Transport	Phosphorus Loss Rating					After
	(1 point)	(2 points)	(4 polets)	(8 points)	Value	Value
Hydrologic Soil Group (Table 1)	Α	В	0	D	4	
Erosion Potential (Table 2)	_	Low	Medium	High	2	
Permanent Vegetative Buffer Width *(ft)	<u>29</u>	20-29	10-29	< 10	1	
Non-Application Width from Surface Water source (ft)	>29	20-29	10-29	< 10		

\* Permanent Vegetative Buffer must be installed, constructed, and maintained in accordance with applicable NRCS Conservation Practice Standard.

Source		Phosphorus Loss Rating				After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Soil Test P Value	Low	Medium	High	Very High	4	
P Application Rate	0.20 x lbs P <sub>2</sub> O <sub>5</sub> applied as commercial fertilizer					
(lbs/ac/crop or crop sequence/rotation)	0.10 x <b>/20</b> lbs P <sub>2</sub> O <sub>5</sub> applied as manure, litter, or biosolids					
	0.05 x	12				
Application Timing	June - Sept.	April, May, Oct.	March or Nov.	Dec., Jan., Feb.		
		March or Nov. w/ winter cover	w/o winter cover, Feb. w/ winter cover		2	
Application Method	Injected/Banded	Incorporated within 5	Incorporated	Surface applied		
	2" below the surface	days of application	more than 5 days ( after application	(no incorporation)	8	
,,		days of application		(no incorporation)	8	
					٠,	
		Part B: Total	Management '	Value:	ale	

Before Value -	Multiply Part A ( $8$	_) x Part B ( <u>26</u>	_) = <u>208</u>	P Loss Rating
After Value -	Multiply Part A (	_) x Part B (	_) =	P Loss Rating

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ποία: Ροίπε : Φοπ.Ρ.Ιπαθχ <u>1</u>	Generalizacilinterpi etalionio (PA) noto (Pojini Strojiche Site
< 100	LOW potential for P movement from the field. If farming practices are maintained at the current level there is a low probability of an adverse impact to surface waters from P losses. Nitrogen-based nutrient management planning is satisfactory for this site. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.
100 - 200	MEDIUM potential for P movement from the field. The chance for adverse impact to surface waters exist. Nitrogen-based nutrient management planning are satisfactory for this field when conservation measures are implemented to lessen the probability of P loss. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.
201 - 300	HIGH potential for P movement from the field. The chance for adverse impact to surface waters is likely unles remedial action is taken. Soil and water conservation practices are necessary (if practical) to reduce the risk of P movement and water quality degradation. If risk cannot be reduced, then a P-based nutrient management plan will be implemented.
> 301	VERY HIGH potential for P movement from the field and an adverse impact on surface waters. All necessary soil and water conservation practices, plus a P-based nutrient management plan must be put in place to avoid the potential for water quality degradation.

#### Part A: Phosphorus Loss Potential Due to Transport Characteristics

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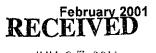
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Transport		Phosphorus	Loss Rating		Before	Afte <i>r</i> Value
	(1 point)	(2 points)	(4 points)	(8 points)	Value	
Hydrologic Soil Group (Table 1)	Α	В	0	D		
Erosion Potential (Table 2)	-	Low	Medium	High		
Permanent Vegetative Buffer Width *(ft)	>29	20-29	10-29	< 10		
Non-Application Width from Surface Water source (ft)	>29	20-29	10-29	< 10		

Part A: Total Site Value:

8

<sup>\*</sup> Permanent Vegetative Buffer must be installed, constructed, and maintained in accordance with applicable NRCS Conservation Practice Standard.

Source	Phosphorus Loss Rating					After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Soil Test P Value	Low	Medium	High	Very High	8	
P Application Rate (lbs/ac/crop or crop sequence/rotation)	0.20 x 0.10 x <b>/20</b> 0.05 x	lbs $P_2O_5$ applied as the P $_2O_5$ applied as the P $_2O_5$ applied as	s manure, litter, c	or biosolids	12	
Application Timing	June – Sept.	April, May, Oct., March or Nov. w/ winter cover	March or Nov. w/o winter cover, Feb. w/ winter cover	Dec., Jan., Feb.		
Application Method	Injected/Banded 2" below the surface	Incorporated within 5 days of application	Incorporated more than 5 days after application	Surface applied (no incorporation)	8	

Before Value -	Multiply Part A	(_8	) x Part B ( <u>2</u> 0	<u>l</u> ) =	<u> </u>	Loss	Rating
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After Value - Multiply Part A (\_\_\_\_\_) x Part B (\_\_\_\_\_) = \_\_\_\_ P Loss Rating

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< 100	LOW potential for P movement from the field. If farming practices are maintained at the current level there is a low probability of an adverse impact to surface waters from P losses. Nitrogen-based nutrient management planning is satisfactory for this site. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.
100 - 200	<b>MEDIUM</b> potential for P movement from the field. The chance for adverse impact to surface waters exist. <i>Nitrogen-based nutrient management planning are satisfactory for this field when conservation measures are implemented to lessen the probability of P loss. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.</i>
201 - 300	HIGH potential for P movement from the field. The chance for adverse impact to surface waters is likely unles remedial action is taken. Soil and water conservation practices are necessary (if practical) to reduce the risk of P movement and water quality degradation. If risk cannot be reduced, then a P-based nutrient management plan will be implemented.
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#### Part A: Phosphorus Loss Potential Due to Transport Characteristics

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Tennessee Phosphorus Index\*

Transport	Phosphorus Loss Rating					After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Hydrologic Soil Group (Table 1)	А	В	0	D	4	
Erosion Potential (Table 2)	-	Low	Medium	High	2	
Permanent Vegetative Buffer Width *(ft)	>29	20-29	10-29	< 10		
Non-Application Width from Surface Water source (ft)	>29	20-29	10-29	< 10		

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		Phosphorus Loss Rating					
en ja 1 - jan Avantas vastas – januaris januaris januaris januaris januaris januaris januaris januaris januaris januaris ja	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value	
Soil Test P Value	Low	Medium	High	Very High	8		
P Application Rate (lbs/ac/crop or crop sequence/rotation)	0.10 x <u>/2.0</u>	0.20 x lbs $P_2O_5$ applied as commercial fertilizer 0.10 x $\cancel{120}$ lbs $P_2O_5$ applied as manure, litter, or biosolids 0.05 x lbs $P_2O_5$ applied as alum amended poultry litter					
Application Timing	June - Sept.	April, May, Oct., March or Nov. w/ winter cover	March or Nov. w/o winter cover, Feb. w/ winter cover	Dec., Jan., Feb.			
Application Method	Injected/Banded 2" below the surface	Incorporated within 5 days of application	Incorporated more than 5 days after application	Surface applied (no incorporation)	8		

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100 - 200	<b>MEDIUM</b> potential for P movement from the field. The chance for adverse impact to surface waters exist. <i>Nitrogen-based nutrient management planning are satisfactory for this field when conservation measures are implemented to lessen the probability of P loss. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.</i>
201 - 300	HIGH potential for P movement from the field. The chance for adverse impact to surface waters is likely unles remedial action is taken. Soil and water conservation practices are necessary (if practical) to reduce the risk of P movement and water quality degradation. If risk cannot be reduced, then a P-based nutrient management plan will be implemented.
> 301	VERY HIGH potential for P movement from the field and an adverse impact on surface waters. All necessary soil and water conservation practices, plus a P-based nutrient management plan must be put in place to avoid the potential for water quality degradation.

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Transport	Phosphorus Loss Rating					After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Hydrologic Soil Group (Table 1)	А	В	(C)	D	4	
Erosion Potential (Table 2)	-	Low	Medium	High	2	
Permanent Vegetative Buffer Width *(ft)	>29	20-29	10-29	< 10	J	
Non-Application Width from Surface Water source (ft)	>29	20-29	10-29	< 10	1	

Part A: Total Site Value:

8

<sup>\*</sup> Permanent Vegetative Buffer must be installed, constructed, and maintained in accordance with applicable NRCS Conservation Practice Standard.

Source	Phosphorus Loss Rating					After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Soil Test P Value	Low	Medium	High	Very High	ړ	
P Application Rate (lbs/ac/crop or crop sequence/rotation)		lbs $P_2O_5$ applied as lbs $P_2O_5$ applied as lbs $P_2O_5$ applied as	s manure, litter, c	r biosolids	8	
Application Timing	June Sept.	April, May, Oct., March or Nov. w/ winter cover	March or Nov. w/o winter cover, Feb. w/ winter cover	Dec., Jan., Feb.	٦.	
Application Method	Injected/Banded 2" below the surface	Incorporated within 5 days of application	Incorporated more than 5 days after application	Surface applied (no incorporation)	Ч	

Before Value - Multiply Part A (8) x Part B (16) = 128 P Loss Rating

After Value - Multiply Part A (\_\_\_\_\_) x Part B (\_\_\_\_\_) = \_\_\_\_ P Loss Rating

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< 100	LOW potential for P movement from the field. If farming practices are maintained at the current level there is a low probability of an adverse impact to surface waters from P losses. Nitrogen-based nutrient management planning is satisfactory for this site. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.
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201 - 300	HIGH potential for P movement from the field. The chance for adverse impact to surface waters is likely unles remedial action is taken. Soil and water conservation practices are necessary (if practical) to reduce the risk of P movement and water quality degradation. If risk cannot be reduced, then a P-based nutrient management plan will be implemented.
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Transport	Phosphorus Loss Rating					After
:	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Hydrologic Soll Group (Table 1)	Α	В	(0)	D	4	
Erosion Potential (Table 2)	-	Low	Medium	High	2	
Permanent Vegetative Buffer Width *(ft)	>29	20-29	10-29	< 10	1	
Non-Application Width from Surface Water source (ft)	>29	20-29	10-29	< 10		

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Source	Phosphorus Loss Rating					After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Soil Test P Value	Low	Medium	High	Very High	4	
P Application Rate	0.20 x	0.20 x lbs P <sub>2</sub> O <sub>5</sub> applied as commercial fertilizer				
(lbs/ac/crop or crop sequence/rotation)	$0.10 \times 120$ lbs $P_2O_5$ applied as manure, litter, or biosolids					
	$0.05  ext{ x}$ lbs $P_2O_5$ applied as alum amended poultry litter					
Application Timing	June – Sept.	April, May, Oct., March or Nov. w/	March or Nov. w/o winter cover, Feb. w/ winter	Dec., Jan., Feb.		
		winter cover	cover		2	
Application Method	injected/Banded	Incorporated within 5 days of application	Incorporated more than 5 days	Surface applied (no incorporation)		
	surface	days or approach	after application		8	
Annual Indiana (Annual Indiana Indiana Indiana Indiana Indiana Indiana Indiana Indiana Indiana Indiana Indiana	and the second s	1				

Before Value -	Multiply Part A (	$(2.6) \times \text{Part B} (2.6) = 2.0$	<u>08</u> P Loss Rating
After Value -	Multiply Part A (	) x Part B () =	P Loss Rating

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Total Politics Dotal Placity	Genelle Ursel Injergretetten et 12 Index Folias (er Gredin)
< 100	LOW potential for P movement from the field. If farming practices are maintained at the current level there is a low probability of an adverse impact to surface waters from P losses. Nitrogen-based nutrient management planning is satisfactory for this site. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.
100 - 200	<b>MEDIUM</b> potential for P movement from the field. The chance for adverse impact to surface waters exist. <i>Nitrogen-based nutrient management planning are satisfactory for this field when conservation measures are implemented to lessen the probability of P loss. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.</i>
201 - 300	HIGH potential for P movement from the field. The chance for adverse impact to surface waters is likely unles remedial action is taken. Soil and water conservation practices are necessary (if practical) to reduce the risk of P movement and water quality degradation. If risk cannot be reduced, then a P-based nutrient management plan will be implemented.
> 301	VERY HIGH potential for P movement from the field and an adverse impact on surface waters. All necessary soil and water conservation practices, plus a P-based nutrient management plan must be put in place to avoid the potential for water quality degradation.

#### Part A: Phosphorus Loss Potential Due to Transport Characteristics

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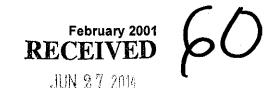
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**Group D:** Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.



Transport	Phosphorus Loss Rating					After
	(1 point)	(2 points)	(4 peints)	(8 points)	Value	Value
Hydrologic Soil Group (Table 1)	Α	В	0	D	4	
Erosion Potential (Table 2)	-	Low	Medium	High	2,	
Permanent Vegetative Buffer Width *(ft)	<u>&gt;29</u>	20-29	10-29	< 10		
Non-Application Width from Surface Water source (ft)	\$29	20-29	10-29	< 10		

Part A: Total Site Value:

on with applicable NBCS

<sup>\*</sup> Permanent Vegetative Buffer must be installed, constructed, and maintained in accordance with applicable NRCS Conservation Practice Standard.

Source	Phosphorus Loss Rating					After	
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value	
Soil Test P Value	Low	Medium	High	Very High	8		
P Application Rate (lbs/ac/crop or crop sequence/rotation)	1	$0.20 \times $ lbs $P_2O_5$ applied as commercial fertilizer $0.10 \times 120$ lbs $P_2O_5$ applied as manure, litter, or biosolids $0.05 \times $ lbs $P_2O_5$ applied as alum amended poultry litter					
Application Timing	June - Sept.	April, May, Oct., March or Nov. w/ winter cover	March or Nov. w/o winter cover, Feb. w/ winter cover	Dec., Jan., Feb.	12		
Application Method	Injected/Banded 2" below the surface	Incorporated within 5 days of application	Incorporated more than 5 days after application	Surface applied (no incorporation)	8		

Refore Value	Multiply Part A (_	8	V Part B (39	١ =	232. p	l oce Patin
<u>before value</u> -	Wuitiply Part A (_	0_	<u> کرا</u> x Part B	_} = ,	<u> ಜರ್</u> ಗ	ross Katini

After Value - Multiply Part A (\_\_\_\_\_) x Part B (\_\_\_\_\_) = \_\_\_\_ P Loss Rating

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100 - 200	<b>MEDIUM</b> potential for P movement from the field. The chance for adverse impact to surface waters exist. Nitrogen-based nutrient management planning are satisfactory for this field when conservation measures are implemented to lessen the probability of P loss. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.
201 - 300	HIGH potential for P movement from the field. The chance for adverse impact to surface waters is likely unles remedial action is taken. Soil and water conservation practices are necessary (if practical) to reduce the risk of P movement and water quality degradation. If risk cannot be reduced, then a P-based nutrient management plan will be implemented.
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Transport	Phosphorus Loss Rating					After
	(1 point)	(2 paints)	(4 peints)	(8 points)	Value	Value
Hydrologic Soll Group (Table 1)	Α	В	0	D		
Erosion Potential (Table 2)	-	Low	Medium	High		
Permanent Vegetative Buffer Width *(ft)	\$29	20-29	10-29	< 10		
Non-Application Width from Surface Water source (ft)	>29	20-29	10-29	< 10		

\* Permanent Vegetative Buffer must be installed, constructed, and maintained in accordance with applicable NRCS Conservation Practice Standard.

Part A: Total Site Value:

(1 point)	(2 points)	(4 points)		t Modello t	
Low		A President	(8 points)	Value	Value
23	Medium	High	Very High	8	
0.20 x lbs P <sub>2</sub> O <sub>5</sub> applied as commercial fertilizer					
0.10 x 12.0 lbs P₂O₅ applied as manure, litter, or biosolids					
0.05 x lbs P <sub>2</sub> O <sub>5</sub> applied as alum amended poultry litter					
June - Sept.	April, May, Oct.,	March or Nov.	Dec., Jan., Feb.		
	winter cover	Feb. w/ winter cover, cover		1	
Injected/Banded	Incorporated within 5	Incorporated	Surface applied		
surface	days or application	after application	(no incorporation))	8	
And the second s					
				20	
	0.10 x 12.0 0.05 x  June – Sept.  Injected/Banded 2' below the	0.10 x 12.0 lbs P <sub>2</sub> O <sub>5</sub> applied as 0.05 x lbs P <sub>2</sub> O <sub>5</sub> applied as  June – Sept. April, May, Oct., March or Nov. w/ winter cover  Injected/Banded 2' below the surface  Incorporated within 5 days of application	$0.10 \times 120$ lbs $P_2O_5$ applied as manure, litter, on $0.05 \times 16$ lbs $P_2O_5$ applied as alum amended $0.05 \times 16$ lbs $P_2O_5$ applied as alum amended $0.05 \times 16$ lbs $P_2O_5$ applied as alum amended $0.05 \times 16$ lbs $P_2O_5$ applied as alum amended $0.05 \times 16$ lbs $P_2O_5$ applied as alum amended $0.05 \times 16$ lbs $P_2O_5$ applied as alum amended $0.05 \times 16$ lbs $P_2O_5$ applied as alum amended $0.05 \times 16$ lbs $P_2O_5$ applied as alum amended $0.05 \times 16$ lbs $0.05 \times 16$ l	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	0.10 x 120 lbs P <sub>2</sub> O <sub>5</sub> applied as manure, litter, or biosolids  0.05 x lbs P <sub>2</sub> O <sub>5</sub> applied as alum amended poultry litter  12

Before Value -	Multiply Part A ( <u></u> &	_) x Part B ( <u>29</u>	_) = <u>232</u>	P Loss Rating
After Value -	Multiply Part A (	_) x Part B (	> =	P Loss Rating

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Transport	Phosphorus Loss Rating					After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Hydrologic Soll Group (Table 1)	Α	В	©	D	4	
Erosion Potential (Table 2)	-	Low	Medium	High	2	
Permanent Vegetative Buffer Width *(ft)	>29	20-29	10-29	< 10		
Non-Application Width from Surface Water source (ft)	<u>-29</u>	20-29	10-29	< 10		

Part A: Total Site Value:

8

<sup>\*</sup> Permanent Vegetative Buffer must be installed, constructed, and maintained in accordance with applicable NRCS Conservation Practice Standard.

jource	Phosphorus Loss Rating					After
Company of the Compan	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Soil Test P Value	Low	Medium	High	Very High	8	
Application Rate	0.20 x	lbs P <sub>2</sub> O <sub>5</sub> applied as	commercial fer	tilizer		
lbs/ac/crop or crop equence/rotation)	$0.10  imes 120$ lbs $P_2O_5$ applied as manure, litter, or biosolids					
•••	0.05 x	lbs P <sub>2</sub> O <sub>5</sub> applied as	alum amended	poultry litter	12	
Application Timing	June - Sept.	April, May, Oct.,	March or Nov.	Dec., Jan., Feb.		
		March or Nov. w/ winter cover	w/o winter cover, Feb. w/ winter cover		1	
Application Method	Injected/Banded	Incorporated within 5	Incorporated	Surface applied		
	2" below the surface	days of application	more than 5 days ' after application	(no incorporation)	8	

Before Value -	Multiply Part A (	) x Part B ( <u>29</u> ) = <u>23</u> 2	P Loss Rating
After Value -	Multiply Part A (	_) x Part B () =	_ P Loss Rating

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100 - 200	<b>MEDIUM</b> potential for P movement from the field. The chance for adverse impact to surface waters exist. <i>Nitrogen-based nutrient management planning are satisfactory for this field when conservation measures are implemented to lessen the probability of P loss.</i> Soil P levels and P loss potential may increase in the future due to N-based nutrient management.
201 - 300	HIGH potential for P movement from the field. The chance for adverse impact to surface waters is likely unles remedial action is taken. Soil and water conservation practices are necessary (if practical) to reduce the risk of P movement and water quality degradation. If risk cannot be reduced, then a P-based nutrient management plan will be implemented.
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Transport	Phosphorus Loss Rating					After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Hydrologic Soil Group (Table 1)	Α	В	(	D	4	
Erosion Potential (Table 2)	-		Medium	High	ړ	
Permanent Vegetative Buffer Width *(ft)	>29	20-29	10-29	< 10		
Non-Application Width from Surface Water source (ft)	(>29)	20-29	10-29	< 10		

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Source	Phosphorus Loss Rating					After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Soil Test P Value	Low	Medium	High	Very High	4	
P Application Rate	0.20 x	lbs P <sub>2</sub> O <sub>5</sub> applied a	s commercial fert	tilizer		
(lbs/ac/crop or crop sequence/rotation)	0.10 x <u>/20</u>	lbs P <sub>2</sub> O <sub>5</sub> applied a	s manure, litter, c	or biosolids		
	0.05 x	lbs P <sub>2</sub> O <sub>5</sub> applied a	s alum amended	poultry litter	12	
Application Timing	June – Sept.	April, May, Oct.,	March or Nov.	Dec., Jan., Feb.		
	- Markense de	March or Nov. w/ winter cover	w/o winter cover, Feb. w/ winter cover		2	
Application Method	Injected/Banded	Incorporated within 5	incorporated	Surface applied		
	2" below the surface	days of application	more than 5 days tafter application	(no incorporation)	8	
Application Method	2" below the		incorporated more than 5 days	Surface applied (no incorporation)		

Before Value -	Multiply Part A (	8_) x Part B (_2	<u>(6) = 21</u>	<u>ଠି</u> & P Loss Rating
After Value -	Multiply Part A (	) x Part B (	) =	P Loss Rating

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Tennessee Phosphorus Index\*

Transport	Phosphorus Loss Rating				Before	After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Hydrologic Soil Group (Table 1)	А	В	<b>O</b>	D	4	
Erosion Potential Table 2)	-	Low	Medium	High	2	
Permanent Vegetative Buffer Width *(ft)	>29	20-29	10-29	< 10		
Non-Application Width rom Surface Water ource (ft)	>29	20-29	10-29	< 10	l	

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Source	Phosphorus Loss Rating				Before	After
	(1 point)	(2 points)	(4 points)	(8 points)	Value	Value
Soil Test P Value	Low	Medium	High	Very High	8	:
P Application Rate	0.20 x lbs P <sub>2</sub> O <sub>5</sub> applied as commercial fertilizer					
(lbs/ac/crop or crop sequence/rotation)	0.10 x <b>_&amp; b</b> lbs P₂O₅ applied as manure, litter, or biosolids					
•	$0.05  ext{ x}$ lbs $P_2O_5$ applied as alum amended poultry litter				8	
Application Timing	June – Sept.	April, May, Oct., March or Nov. w/	March or Nov.	Dec., Jan., Feb.		
		winter cover	Feb. w/ winter cover, cover		2	
Application Method	Injected/Banded	Incorporated within 5	Incorporated	Surface applied		
	2" below the surface	days of application	more than 5 days after application	(no incorporation)	4	
		······································				

Before Value -	Multiply Part A (	8 ) x Part B (_2.	<u>2</u> ) = <u>/</u>	76 P Loss Rating
After Value -	Multiply Part A (	) x Part B (	) =	P Loss Rating

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Total Roja S Tom Plastyx a	
< 100	LOW potential for P movement from the field. If farming practices are maintained at the current level there is a low probability of an adverse impact to surface waters from P losses. Nitrogen-based nutrient management planning is satisfactory for this site. Soil P levels and P loss potential may increase in the future due to N-based nutrient management.
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## DEAD ANIMAL DISPOSAL STATEMENT

We are composting dead animals in sawdust. After decomposition, we are spreading it in fields and plowing under.

Doug Dowdy
Doug Dowdy

## Closure Plan

In the event that Swine production at this location ceases, the following will be done within 360

- All manure in all animal use areas will be removed and spread on the farm or spread elsewhere according to my current Nutrient Management Plan.
- The most current manure analysis will be provided to anyone removing manure from the farm.
- Any dead pigs on the farm will be disposed of at the time of closure according to methods outlined in my current Nutrient Management Plan and or allowable by Tennessee Law.
- Any manure which is land applied will be done so according to the rates discussed in my most recent Nutrient Management Plan.

The following will be completed within a reasonable period as allowable by law using Tennessee Natural Resources Conservation Service (NRCS) Standard Code 360- Closure of Waste Impoundments:

- Any manure storage facility (lagoon) located on the swine farm will be properly decommissioned.
- Any manure currently in storage at the time of closure will be removed and spread on the farm or spread elsewhere according to my current Nutrient Management Plan.
- The lagoon will be breached and backfilled and or converted to freshwater storage according to NRCS standards.

Dong Dously

Date: 9-20-11

#### DOWDY CLOSURE PLAN

If the storage facility is no longer used for animal confinement and manure storage, it shall be closed as follows. Manure and wastewater will be agitated and pumped to the extent conventional pumping will allow. Clean water shall be added as necessary to facilitate the agitation and pumping. The wastewater shall be utilized in accordance with NRCS conservation practice standard, Nutrient Management (Code 590). The sludge remaining on the bottom and sides of the waste treatment lagoons or waste storage ponds may remain in place if it will not pose a threat to the environment. If leaving the sludge in place would pose a threat, it shall be removed to the fullest extent practical and utilized in accordance with NRCS conservation practice standard, Waste Utilization (Code 633) and/or Nutrient Management (Code 590).

Land reclamation. Impoundments with embankments may be breached so that they will no longer impound water and excavated impoundments may be backfilled so that these areas may be reclaimed for other uses. Waste impoundments that have water impounded against the embankment are considered embankment structures if the depth of water is three (3) feet or more above natural ground.

- (1) <u>Embankment Impoundments</u>. Manure shall be removed from the site before the embankment is breached. The slopes and bottom of the breach shall be stable for the soil material involved, however the side slopes shall be no steeper than three horizontal to one vertical (3:1).
- (2) Excavated Impoundments. The backfill height shall exceed the design finished grade by 5 percent to allow for settlement. The finished surface shall be constructed of the most clayey material available and mounded to shed rainfall runoff. Incorporate available topsoil where feasible to aid establishment of vegetation.

Conversion to fresh water storage. The converted impoundment shall meet the requirements of the appropriate NRCS conservation practice standard for the intended purpose (e.g., Pond, Code 378; Irrigation Pit or Regulating Reservoir, Code 552; or Irrigation Storage Reservoir, Code 436). This will require an investigation of the structural integrity of the impoundment if not originally constructed with NRCS technical assistance.

Safety. When sludge is not removed from an embankment or excavated pond, precautions (fencing and warning signs) will be used to ensure that the pond is not used for incompatible purposes (such as swimming, livestock watering, fish production, etc.) until water quality is adequate for the intended purpose. Water quality sampling and analysis shall be used to determine when the pond is safe for these uses.

**Protection**. All disturbed areas not returned to crop production shall be vegetated in accordance with NRCS conservation practice standard Critical Area Planting, Code 342.

Dowdy Pork LLC Facility Name

## **Declarations to Nutrient Management Plan:**

By my signature below, I affirm that I have read, understand, and will comply with the following stipulations from Tennessee's CAFO regulations that apply to my CAFO operation:

- 1) All animals in confinement are prevented from coming in direct contact with waters of the state.
- 2) All chemicals and other contaminants handled on-site are not disposed of in any manure, litter, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants.
- 3) Pesticide-contaminated waters will be prevented from discharging into waste retention structures. Waste from pest control and from facilities used to manage potentially hazardous or toxic chemicals shall be handled and disposed of in a manner that will prevent pollutants from entering waste retention structures or waters of the state.
- 4) Chemicals, manure/litter, and process wastewater will be managed to prevent spills. Spill clean-up plans will be developed and any equipment needed for spill clean-up will be available to facility personnel.
- 5) All sampling of soil and manure/litter is conducted according to protocols developed by UT Extension.
- 6) All records outlined in the permit that I am applying for will be maintained and available on-site.
- 7) Any confinement buildings, waste/wastewater handling or treatment systems, lagoons, holding ponds, and any other agricultural waste containment/treatment structures constructed or modified after April 13, 2006, are or will be located in accordance with NRCS Conservation Practice Standard 313.
- 8) A copy of the most recent Nutrient Management Plan will be kept as part of the farm records and will be maintained and implemented as written.
- 9) If applicable, all waste directed to under floor pits shall be composed entirely of wastewater (i.e. washwater and animal waste).
- 10) The Tennessee Department of Environment and Conservation Division of Water Resources will be notified of any significant wildlife mortalities near retention ponds or following any land application of animal wastes to fields.
- 11) All employees involved in work activities that relate to permit compliance will receive regular training on proper operation and maintenance (O&M) of the facility and waste disposal. Training shall include appropriate topics, such as land application of wastes, good housekeeping and material management practices, proper O&M of the facility, record keeping, and spill response and clean up. The periodic scheduled dates for such training shall be identified in the current Nutrient Management Plan.
- 12) There shall be no land application of nutrients within 24 hours of a precipitation event that may cause runoff. The operator shall not land apply nutrients to frozen, flooded, or saturated soils.

Signature of JAFO Owner/Operator

Date RECEIVE

JUN 2 7 2017